# THE UNIVERSITY OF CHICAGO



## GRADUATE PROGRAMS IN THE DIVISIONS ANNOUNCEMENTS 2020-2021

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## Graduate Divisions

In keeping with its long-standing traditions and policies, the University of Chicago considers students, employees, applicants for admission or employment, and those seeking access to University programs on the basis of individual merit. The University does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity, national or ethnic origin, age, status as an individual with a disability, protected veteran status, genetic information, or other protected classes under the law (including Title IX of the Education Amendments of 1972). For additional information regarding the University of Chicago's Policy on Harassment, Discrimination, and Sexual Misconduct, please see: http:// harassmentpolicy.uchicago.edu/page/policy/).

The University official responsible for coordinating compliance with this Notice of Nondiscrimination is Bridget Collier, Associate Provost and Director of the Office for Equal Opportunity Programs. Ms. Collier also serves as the University's Title IX Coordinator, Affirmative Action Officer, and Section 504/ADA Coordinator. You may contact Ms. Collier by emailing bcollier@uchicago.edu, by calling 773.702.5671, or by writing to Bridget Collier, Office of the Provost, The University of Chicago, 5801 S. Ellis Ave., Suite 427, Chicago, IL 60637.

The content of these Announcements is accurate as of August 1, 2019. It is subject to change.

Photo by Tom Rossiter.



## The University of Chicago

Joseph Neubauer, Chairman of the Board of Trustees Robert J. Zimmer, President of the University Ka Yee C. Lee, Provost Candidates for admission to graduate programs at the University of Chicago should address their inquiries, including requests for application materials, to the Office of the Dean of Students of the relevant graduate division or school to which application is being made. All of the information in this volume, as well as in the Announcements of each of the professional schools, is available online at http://catalogs.uchicago.edu. These documents are updated periodically. You will find admissions applications and more detailed information about a program that interests you on divisional websites. The statements contained in these Announcements are subject to change without notice. Division of the Biological Sciences 924 East 57th Street Chicago, IL 60637 (773) 834 2105 Email: bsdadmissions@uchicago.edu http:// (http://bsdgrad.uchicago.edu)biosciences.uchicago.edu (http://biosciences.uchicago.edu) The Pritzker School of Medicine (773) 702-1937 Fax (773) 834-5412 Email: pritzkeradmissions@bsd.uchicago.edu https://pritzker.uchicago.edu/page/admissions-process (https://pritzker.uchicago.edu/page/admissions-process/) Division of the Humanities 1115 East 58th Street Chicago, IL 60637 (773) 702-1552 Email: humanitiesadmissions@uchicago.edu http://humanities.uchicago.edu Division of the Physical Sciences 5640 South Ellis Avenue Chicago, IL 60637 (773) 702-7950 Email: https://apply-psd.uchicago.edu/apply/ http://physical-sciences.uchicago.edu Division of the Social Sciences 1130 East 59th Street, Foster 107 Chicago, IL 60637 (773) 702-8415 Email: ssd-admissions@uchicago.edu http://socialsciences.uchicago.edu The University of Chicago Booth School of Business 5807 S. Woodlawn Ave. Chicago, IL 60637 (773) 702-7743 Email: admissions@chicagobooth.edu http://chicagobooth.edu (http://www.chicagobooth.edu) Divinity School 1025 East 58th Street Chicago, IL 60637 (773) 702-8249 Email: divinityadmissions@uchicago.edu http://divinity.uchicago.edu The University of Chicago Harris School of Public Policy 1155 East 60th Street Chicago, IL 60637 (773) 702-8401 Email: harrisadmissions@uchicago.edu https://harris.uchicago.edu/academics/programs-degrees (https://harris.uchicago.edu/academics/programs-degrees/) The Pritzker School of Molecular Engineering 5640 South Ellis Avenue, 213 ACC Chicago, IL 60637 (773) 834-2057 Email: ime-admissions@uchicago.edu (//ime@uchicago.edu) http://ime.uchicago.edu/ (http://ime.uchicago.edu) The University of Chicago Law School

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1111 East 60th Street Chicago, IL 60637 (773) 702-9484 Email: admissions@law.uchicago.edu http://www.law.uchicago.edu School of Social Service Administration 969 East 60th Street Chicago, IL 60637 (773) 702-1250 Email: admissions@ssa.uchicago.edu http://www.ssa.uchicago.edu (http://www.ssa.uchicago.edu/) Graham School of Continuing Liberal and Professional Studies 1427 E. 60th Street, Press Building, Suite 2 Chicago, IL 60637 (773) 702-1722 Email: grahamschool@uchicago.edu http://grahamschool.uchicago.edu The University of Chicago central switchboard: (773) 702-1234



## Academic Calendar

2020 Summer Quarter	
Description	Date(s)
Quarter Begins	Monday, June 22
Independence Day Holiday	Friday, July 3
Quarter Ends	Saturday, August 29
2020 Autumn Quarter	
Description	Date(s)
College Orientation Begins	Tuesday, September 8
Quarter Begins	Tuesday, September 29
Study Week/Thanksgiving Break	Monday-Friday, November 23-27
College Reading Period	Saturday-Monday, December 5-7
Quarter Ends	Saturday, December 12
2021 Winter Ouarter	
Description	Date(s)
Description Quarter Begins	Date(s) Monday, January 4
Description Quarter Begins Martin Luther King Jr. Day	Date(s) Monday, January 4 Monday, January 18
Description Quarter Begins Martin Luther King Jr. Day College Break	Date(s) Monday, January 4 Monday, January 18 Friday, February 12
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period Quarter Ends	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12 Saturday, March 20
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period Quarter Ends 2021 Spring Quarter	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12 Saturday, March 20
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period Quarter Ends 2021 Spring Quarter Description	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12 Saturday, March 20 Date(s)
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period Quarter Ends 2021 Spring Quarter Description Quarter Begins	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12 Saturday, March 20 Date(s) Monday, March 29
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period Quarter Ends 2021 Spring Quarter Description Quarter Begins Memorial Day	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12 Saturday, March 20 Date(s) Monday, March 29 Monday, May 31
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period Quarter Ends 2021 Spring Quarter Description Quarter Begins Memorial Day College Reading Period	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12 Saturday, March 20 Date(s) Monday, March 29 Monday, May 31 Thursday–Friday, June 3–4
Description Quarter Begins Martin Luther King Jr. Day College Break College Reading Period Quarter Ends 2021 Spring Quarter Description Quarter Begins Memorial Day College Reading Period Convocation	Date(s) Monday, January 4 Monday, January 18 Friday, February 12 Thursday–Friday, March 11–12 Saturday, March 20 Date(s) Monday, March 29 Monday, May 31 Thursday–Friday, June 3–4 Saturday, June 12

All dates are subject to change with no notice.

 $\label{eq:up-to-date} Up-to-date academic calendars can be found at uchicago.edu/academics/calendar (https://www.uchicago.edu/academics/calendar/).$ 



## **General Information**

Announcements: Graduate Programs in the Divisions provides an overview of all graduate programs at the University of Chicago in the Divisions of the Biological Sciences, the Humanities, the Physical Sciences, the Social Sciences, the Pritzker School of Molecular Engineering, and the William B. and Catherine V. Graham School of Continuing Liberal and Professional Studies. Professional schools in the University are closely integrated into the wider University; their programs are briefly described here. An individual issue of the Announcements is also available from each professional school which describes its programs and requirements in detail.

This volume is organized in a way that reflects the organization and functioning of the University. Each department, program, or degree granting committee in the divisions of the University conducts its own admissions and aid competition, and sets its own degree requirements within a framework that is set by the University and by each division. However, divisions, departments, and programs engage in a substantial number of cooperative efforts, as evidenced by the large number of interdepartmental and interdivisional programs, committees, centers, and research groups in the University. Therefore, this volume contains a section for each division, and a separate section for interdivisional programs, centers, committees, and other organizations in which students may participate and, in some cases, earn a degree. The introductory section, which you are now reading, contains information about the University that is relevant to all students and applicants. A final section contains information for those interested in one of the professional schools.

Readers of these Announcements are advised that the policies and degree requirements of academic units that are set forth herein may change at any time without prior notice, or may represent a summary of more detailed policies and requirements. Students and applicants who wish the most up to date information regarding courses and degree requirements should review the division, department, or program website or contact the department, program, or the dean of students in the relevant division. The provisions of these Announcements are for informational purposes only and are not intended to create a contract or agreement between the University and any applicant or student.

#### History and Purpose

The University of Chicago is a private, nondenominational, coeducational institution of higher learning and research. It is located in the community of Hyde Park-South Kenwood, a culturally rich and ethnically diverse neighborhood seven miles south of downtown Chicago. Hyde Park-South Kenwood encompass one and one quarter square miles of commercial and residential districts that extend from 47th Street on the north to 61st Street on the south and from Cottage Grove Avenue eastward to the shoreline of Lake Michigan. The neighborhood is a stimulating blend of the urban and small town.

The University of Chicago includes the undergraduate College; four graduate Divisions (of the Biological Sciences, the Humanities, the Physical Sciences, and the Social Sciences); six graduate professional schools (the University of Chicago Booth School of Business, the Divinity School, the Law School, the Pritzker School of Medicine, the Irving B. Harris Graduate School of Public Policy Studies, and the School of Social Service Administration); the Pritzker School of Molecular Engineering; the libraries, laboratories, museums, clinics, and institutes; the William B. and Catherine V. Graham School of Continuing Liberal and Professional Studies; and the University of Chicago Press.

The University was founded by John D. Rockefeller. William Rainey Harper was its first president. Classes began on October 1, 1892, with an enrollment of 594 students and a faculty of 103, including eight former college presidents. In 1930 the undergraduate College and the graduate divisions were created by President Robert Maynard Hutchins to foster interdisciplinary study and encourage interdepartmental cooperation. Such cross fertilization continues to characterize the University.

Since its founding, the University has earned a reputation for recruiting a faculty committed to scholarly distinction and intellectual innovation. The faculty is represented in more than seventy honorary and professional societies, including the National Academy of Sciences, the American Academy of Arts and Sciences, the American Philosophical Society, and the National Academy of Education. Eighty-seven members of the faculty, former students, or individuals who did research at the University have been named Nobel laureates, and seven are currently members of the faculty. Notable is the faculty's tradition of developing cross disciplinary fields of study, such as Law and Economics, Conceptual and Historical Studies of Science, Ecology and Evolution, and the Institute for Mind and Biology. A leader in higher education, the University of Chicago has had a major impact on the nation's colleges and universities.

The graduate programs in the University aim to send out graduates who have begun to develop mastery of the content and methods of their chosen field of study and who are equipped to continue to learn and to produce new knowledge. To that end, the University of Chicago offers an unusually free environment for graduate study, one that encourages both faculty and young scholars and researchers to develop their interests and talents by working with colleagues throughout the University.

In addition to its Ph.D. programs and the master's degrees offered through them, the University offers a number of special degree programs for students who have completed a bachelor's degree or the equivalent. These free standing master's degree programs, which may be departmental and multidisciplinary, or offered in conjunction with a master's degree in a professional school, are carefully tailored for students whose goal is a master's degree. Some students who successfully complete these programs subsequently decide to apply to doctoral programs at the University or elsewhere. However, these special degree programs are conceived as self-contained. These programs are listed below:

#### Interdisciplinary programs

- East Asian Studies (as M.B.A./A.M. only)
- East European and Russian/Eurasian Studies (as M.B.A./A.M. only)
- Middle Eastern Studies
- South Asian Studies (as M.B.A./A.M. only)

#### Division of the Biological Sciences

Public Health Sciences

#### Division of the Humanities

- · Master of Arts in Digital Studies of Language, Culture, and History
- Master of Arts Program in the Humanities
- Visual Arts (M.F.A.)

#### Division of the Physical Sciences

- Master of Science in Computational and Applied Mathematics
- Master of Science Program in Computer Science
- Master of Science Program in Financial Mathematics
- Master of Science Program in the Physical Sciences

#### Division of the Social Sciences

- International Relations
- Master of Arts Program in Computational Social Science
- Master of Arts Program in the Social Sciences

#### Pritzker School of Molecular Engineering

Master of Science in Molecular Engineering

#### Application to the Programs in the Divisions and the Pritzker School of Molecular Engineering

Applicants for admission to graduate programs in the divisions at the University of Chicago should address their inquiries to the Office of Graduate Admissions, or to the dean of students of the graduate division or to the program to which application is being made. Applications are submitted electronically; applicants should consult the appropriate divisional or program website for information and instructions, or visit http://grad.uchicago.edu/admissions/).

#### Division of the Biological Sciences

Associate Dean BSD Office of Graduate Affairs and Postdoctoral Affairs 924 East 57th Street, Suite 104 Chicago, IL 60637 5416 (773) 834-2105 bsdadmissions@uchicago.edu http://biosciences.uchicago.edu

#### Division of the Humanities

Dean of Students Division of the Humanities Walker Museum 111 1115 East 58th Street Chicago, IL 60637 (773) 702-1552 humanitiesadmissions@uchicago.edu (//humanitiesadmissions@uchicago.edu) http://humanities.uchicago.edu

#### Division of the Physical Sciences

Applicants should consult the website of the program to which they intend to apply for up to date admission materials. http://physical-sciences.uchicago.edu

#### Division of the Social Sciences

Dean of Students Division of the Social Sciences Foster Hall 107 1130 East 59th Street Chicago, IL 60637 (773) 702-8415

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ssd-admissions@uchicago.edu (//ssd-admissions@uchicago.edu) http://socialsciences.uchicago.edu

#### Pritzker School of Molecular Engineering

Eckhardt Research Center 207 5640 South Ellis Avenue Chicago, IL 60637 (773) 834-5549 ime@uchicago.edu (//ime@uchicago.edu) http://ime.uchicago.edu/ (http://ime.uchicago.edu)

An applicant who holds a degree from an accredited institution is considered for admission on the basis of (1) an undergraduate record, (2) a well organized plan for graduate study, (3) Graduate Record Examination (GRE) and English proficiency scores, where required, and (4) recommendations from three individuals acquainted with the ability, potential, qualifications, motivation, and character of the applicant. In the case of applicants to doctoral programs, these should generally be from faculty members who have supervised the applicant in research or advanced study. For certain programs, professional references, such as work supervisors, may be allowed or preferred, and individuals who have been out of school for a number of years may also consider using such individuals as a reference.

Certain departments of the University require additional credentials; details concerning these additional credentials are available as part of the online application, or will be sent to candidates for admission after they have submitted their applications.

Unofficial transcripts of all academic work and contact information for your recommenders must be submitted with the application. More detailed instructions are included with each division's application. Every applicant is asked to study the general statement of the division he or she plans to enter and the specific requirements of the proposed field of graduate study.

#### **International Students**

Students from abroad may be required to submit, in addition to the usual credentials, proof of proficiency in English and, if admitted, documentation of all sources of financial support for any expenses not covered by any funding provided by the University. Only those students from abroad who hold the equivalent of a U.S. bachelor's degree will be considered for admission.

#### Application Deadlines

Applications for admission and for aid must be submitted by the appropriate deadline. Application deadlines can be found on the online applications and may be as early as December 1 for the following autumn. Incomplete applications will be evaluated on the basis of materials received at the time of the regular review process.

#### Part-Time Study

Part-time study is more feasible in some fields than in others. The divisional dean of students can answer questions about opportunities for part time study in particular departments. Student loans are available to students enrolled at least half time. Applicants for part time study are generally not eligible for scholarship assistance since priority in assigning limited University aid funds must necessarily go to full time students.

Applicants who wish to begin their studies on a part-time basis should contact the divisional dean of students or admissions office.

#### Decisions

Most admission and aid decisions for doctoral programs beginning the following autumn quarter are sent by mid-March. Decision timelines for master's programs vary, depending upon the application round the candidate applies under.

In agreement with the Resolution of the Council of Graduate Schools in the United States, a student who agrees to accept a scholarship, fellowship, traineeship, or graduate assistantship at the University of Chicago or at any of the signatory schools prior to **April 15** and subsequently desires to change plans must resign the financial aid offer and/or acceptance of admission in writing in order to accept another scholarship, fellowship, traineeship, or graduate assistantship at the signatory schools prior to the school of the scholarship fellowship, traineeship, or graduate assistantship, regardless of any understanding reached before then. This protects the student's right to select the offer that is most attractive.

#### Students with Disabilities

As soon as possible after having been admitted, students should contact their divisional dean of students and the Student Disability Services (http://disabilities.uchicago.edu/) office.

#### Conditions of Acceptance

Acceptance of a scholarship or fellowship is conditional on the student's agreement to devote full time to graduate study toward an advanced degree at the University of Chicago, unless otherwise specified in your offer of admission. Offers of admission are accompanied by a full list of terms and conditions, and acceptance of an offer from the University of Chicago indicates your understanding of and agreement to these terms.

#### Application to Professional Schools

Students interested in the University's professional schools (the University of Chicago Booth School of Business, the Divinity School, the Law School, the Pritzker School of Medicine, the Harris School of Public Policy Studies, or the School of Social Service Administration) should contact the admissions office of each school. Applicants to the Divinity School, the Harris School, and the School of Social Service Administration may also contact the Office of Graduate Admissions in UChicagoGRAD. Students interested in general courses, courses as a student-at-large, returning scholar, the Master of Liberal Arts, the Master of Science in Threat and Response Management, the Master of Science in Biomedical Informatics, or the Master of Science in Analytics program should contact the William B. and Catherine V. Graham School of Continuing Liberal and Professional Studies. Students interested in the Master of Arts in Teaching from the Urban Teacher Education Program (UTEP) should contact the UTEP staff.

#### Being a Student at the University of Chicago

From healthcare services to cultural programming, the University of Chicago is dedicated to supporting and enriching the life of its graduate students. To that end, there are many offices and programs that exist to create a healthy, safe, and productive environment for students both inside and outside the classroom. You can find a list of resources available to graduate students at http://grad.uchicago.edu/. Additional information is also available from the Office of Campus and Student Life (https://csl.uchicago.edu/), 5801 S. Ellis Ave., Chicago, IL 60637.

Chicago is a vibrant and exciting city that you will want to explore. As a world class city, Chicago also presents all of the typical challenges of a complex modern urban society. While the University takes measures to ensure a safe campus environment, there are also many things you can do to ensure your own safety. The University's campus safety report is designed to help equip you to navigate the city successfully and offers information about the University offices that provide services related to security and safety. The report is available online at securityreport.uchicago.edu (http:// securityreport.uchicago.edu/), tard copies of the report are available upon request from the Office of Campus and Student Life (https://csl.uchicago.edu/), 5801 S. Ellis Ave., Chicago, IL 60637 (or via phone to (773) 702-7770).

As a member of the University of Chicago community, there are University policies and regulations you are responsible for knowing. These policies protect your rights and outline your responsibilities as students. For instance, the Graduate Student Parents Policy grants academic accommodations to graduate students who are also new parents, and Registration for Students in Ph.D. programs defines the status of doctoral students as they progress through their studies. A complete statement of policies and regulations can be found at http://studentmanual.uchicago.edu/



## Interdivisional Programs

The University of Chicago has a distinctive and distinguished tradition of interdisciplinary research and teaching. Faculty and students with interests that span departmental lines are readily able to find colleagues throughout the University. The many interdivisional programs that flourish at the University vary widely in purpose and organization. Some are formal, degree granting committees, some are area studies centers, some are comparatively informal groupings of faculty and advanced students who share an interest in some method, approach, or subject area. The major interdivisional programs are shown below.

- The Council on Advanced Studies
- Institute for Biophysical Dynamics
- Center for the Study of Race, Politics, and Culture
- Center for East Asian Studies
- Center for East European and Russian/Eurasian Studies
- The Enrico Fermi Institute
- The Morris Fishbein Center for the History of Science and Medicine
- The James Franck Institute
- Center for the Study of Gender and Sexuality
- Pozen Family Center for Human Rights
- Center for International Studies
- Center for Jewish Studies
- Center for Latin American Studies
- Center for Middle Eastern Studies
- NORC
- Committee on Southern Asian Studies/South Asia Language & Area Center
- Stevanovich Institute on the Formation of Knowledge



## The Council on Advanced Studies

#### The Council on Advanced Studies

The Council on Advanced Studies oversees a number of interdisciplinary workshops, which are administered by UChicagoGRAD. Council members are appointed in Autumn, and so the membership listed below reflects the 2019-2020 academic year. For the most up-to-date information on Council membership, and a list of current workshops, please consult http://cas.uchicago.edu (http://cas.uchicago.edu/).

Willemien Otten, Chair

#### Members

- Persis Berlekamp
- Mark Bradley
- Paul Cheney
- David A. Gallo
- Anastasia Giannakidou
- Timothy Harrison
- Jonathan Lyon
- John Levi Martin
- Allyson Nadia Field
- Eric Slauter
- Sofia Torallas
- Alice Yao

#### Ex Officio Members

- David Nirenberg, Dean of the Divinity School
- Anne Robertson, Dean of the Humanities Division
- Amanda Woodward, Dean of the Division of the Social Sciences Division

#### THE COUNCIL ON ADVANCED STUDIES

#### cas@uchicago.edu

#### http://cas.uchicago.edu

In 1982, the University of Chicago pioneered a new dimension in graduate education—interdisciplinary workshops that bring together students and faculty in the Divinity School, Humanities Division, and the Social Sciences Division for ongoing and collaborative exchange of ideas around particular areas of interest. By providing graduate students with a forum for presenting their research and writing, the workshops, which have been widely replicated at other universities, have become an important part of the UChicago graduate education experience. Workshops facilitate the dissertation-writing process and create opportunities for professionalization as they encourage students to engage rigorously with their own and their fellow students' work through discussion, debate, evaluation, and critical feedback.

In addition to the academic importance of workshops, participation in a workshop series, which can include scheduled meetings as well as dinners and other social gatherings, serves well to combat intellectual isolation. The workshop setting provides an informal forum for students to develop close and supportive ties with their fellow students as well as faculty mentors and even guest faculty. More advanced graduate students often become mentors and role models to other students as they experience together the different stages of their transition from consumers to creators of knowledge. The workshops represent dozens of vibrant micro-communities of scholars where the participants engage in lively conversation and receive valuable insight and encouragement.



### Institute for Biophysical Dynamics

#### Director

Michael Rust, Molecular Genetics and Cell Biology

Professors

- Francisco Bezanilla, Biochemistry and Molecular Biology
- Sean Crosson, Biochemistry and Molecular Biology
- Aaron Dinner, Chemistry
- Gregory Engel, Chemistry
- Margaret Gardel, Physics
- Benjamin Glick, Molecular Genetics and Cell Biology
- Chuan He, Chemistry
- Stephen Kent, Biochemistry and Molecular Biology
- Anthony A. Kossiakoff, Biochemistry and Molecular Biology
- Ka Yee C. Lee, Chemistry
- · Keith Moffat, Biochemistry and Molecular Biology
- Tao Pan, Biochemistry and Molecular Biology
- Eduardo Perozo, Biochemistry and Molecular Biology
- Benoit Roux, Biochemistry and Molecular Biology
- Norbert Scherer, Chemistry
- Tobin Sosnick, Biochemistry and Molecular Biology
- Andrei Tokmakoff, Chemistry
- Gregory Voth, Chemistry

Associate Professors

- Edwin Munro, Molecular Genetics and Cell Biology
- · Ronald Rock, Biochemistry and Molecular Biology
- Michael Rust, Molecular Genetics and Cell Biology
- Bozhi Tian, Chemistry

The University of Chicago established the Institute for Biophysical Dynamics (http://ibd.uchicago.edu/) to meet the challenges of achieving a molecular-level understanding of the structure, diversity and function of biological entities. The Institute represents a new approach to scientific research at the interface between biology and the physical sciences, bringing together experimentalists, theoreticians, and computational scientists to forge a scientific culture of fluid exchange of ideas and collaboration across disciplines and among laboratories.

In addition, the Institute has established programs to involve undergraduate, graduate, and postdoctoral students in this new cross-disciplinary approach to science. Notably, the Graduate Program in Biophysical Sciences (http:// biophysics.uchicago.edu) is designed to immerse graduate students in this culture of interdisciplinary research. Work by Institute faculty and researchers in their laboratories provides insights profoundly influencing endeavors as diverse as molecular-based computing and the treatment of illness at the bedside.

Institute for Biophysical Dynamics Gordon Center for Integrated Science, W101 929 East 57th Street, Chicago, IL 60637



#### Director

Susan Burns

Associate Director

Abbey Newman

Assistant Director of Programming

Connie Yip

Outreach Coordinator

Myra Su

Center Coordinator

Walter Bourdaghs

Faculty

- Guy S. Alitto History
- Michael Bourdaghs East Asian Languages & Civilizations
- Susan Burns History
- Anthony Cheung Music
- Kyeong-Hee Choi East Asian Languages & Civilizations
- Julie Chu Anthropology
- Lin William Cong Booth School of Business
- Paul Copp East Asian Languages & Civilizations
- Bruce Cumings History
- Jacob Eyferth East Asian Languages & Civilizations
- Michael Fisch Anthropology
- Ariel Fox East Asian Languages & Civilizations
- Chelsea Foxwell Art History
- Zhiying Ma School of Social Service Administration
- Donald Harper East Asian Languages & Civilizations
- James Hevia History
- Christopher Hsee Booth School of Business & Behavioral Science
- Paola Iovene East Asian Languages & Civilizations
- Matthew Kapstein Divinity School
- James E. Ketelaar History
- Yungti Li East Asian Languages & Civilizations
- Wei-Cheng Lin Art History
- Hoyt Long East Asian Languages & Civilizations
- Zhaotian Luo Political Science
- Zhiying Ma Social Service Administration
- Kenneth Pomeranz History
- Johanna Ransmeier History
- Haun Saussy Comparative Literature
- Edward Louis Shaughnessy East Asian Languages & Civilizations
- Ruey Tsay Business
- Hung Wu Art History
- Ming Xiang Linguistics
- Kazuo Yamaguchi Sociology
- Dali Yang Political Science
- Alice Yao Anthropology
- Alan Yu Linguistics
- Judith Zeitlin East Asian Languages & Civilizations

- Dingxin Zhao Sociology
- Brook Ziporyn Divinity School

Affiliated Faculty

- Kagan Arik Near Eastern Languages and Civilizations
- Yoonsun Choi Social Service Administration
- Johan Chu Booth School of Business
- Rachel DeWoskin Creative Writing
- Thomas Ginsburg Law School
- Susan Goldin-Meadow Psychology
- Angie Heo Divinity School
- Dwight Hopkins Divinity School
- Chang-Tai Hsieh Booth School of Business
- Woowon Kang Physics
- Young-Kee Kim Physics
- Valarie Levan Humanities
- Jonathan Lio Medicine
- Thomas Manning Law School
- Jiwoong Park Chemistry
- Or Porath East Asian Languages and Civilizations
- Martin Powers Art History
- Raaj Sah Public Policy
- Olga Solovieva Comparative Literature
- Grace Tsiang Economics
- Christian Wedemeyer Divinity School
- Jake Werner History
- John E. Woods Near Eastern Languages and Civilizations
- Chun-su Yuan Anesthesia and Critical Care

#### Lecturers

- Orianna Caccione Art History
- Katherine Tsiang Art History; Center for the Art of East Asia

Language Instructors

- · Satoko Bourdaghs East Asian Languages and Civilizations Lecturer in Japanese Language
- · Yoko Katagiri East Asian Languages & Civilizations Instructional Professor in Japanese Language
- · Jieun Kim East Asian Languages & Civilizations Senior Lecturer in Korean Language
- Yi-Lu Kuo East Asian Languages & Civilizations Assistant Instructional Professor in Chinese Language
- Meng Li East Asian Languages & Civilizations Associate Instructional Professor in Chinese Language
- · Harumi Lory East Asian Languages & Civilizations Senior Lecturer in Japanese Language
- Misa Miyachi East Asian Languages & Civilizations Instructional Professor in Japanese Language
- Won Kyung Na East Asian Languages & Civilization Assistant Instructional Professor in Korean Language
- Laura A Skosey East Asian Languages & Civilizations Lecturer in Classical Chinese Language
- Xiaorong Wang East Asian Languages & Civilizations Senior Lecturer in Chinese Language
- · Youqin Wang East Asian Languages & Civilizations Assistant Instructional Professor in Chinese Language
- Shan Xiang East Asian Languages & Civilizations Assistant Instructional Professor in Chinese Language
- Jun Yang East Asian Languages & Civilizations Senior Lecturer in Chinese Language
- Yujia Ye East Asian Languages & Civilizations Lecturer in Chinese Language

#### Library Personnel

- Yuan Zhou, Curator, East Asian Collection, Regenstein Library
- Jee-Young Park, East Asian Collection, Regenstein Library
- Jiaxun Benjamin Wu, East Asian Collection, Regenstein Library
- Ayako Yoshimura, East Asian Collection, Regenstein Library

Professors Emeriti

- George Chih-ch'ao Chao
- Judith Farquhar
- Norma Field
- Tetsuo Najita
- William Parish
- George C. Tiao

The Center for East Asian Studies (CEAS) endeavors to broaden the East Asian focus in interdisciplinary scholarship for which UChicago is famous by supporting a wide range of events, graduate fellowships, and faculty research initiatives. Our activities support training in East Asian studies and languages across an array of disciplines and professional schools on campus. CEAS works to enhance opportunities available to scholars both in the United States and abroad, and to foster communication and interdisciplinary collaboration among the community of professors and students at UChicago and throughout the wider East Asian Studies community. To these ends, CEAS sponsors a variety of activities including conferences, graduate workshops, film screenings, cultural events, public lectures, and other programs that promote understanding of the cultures and societies of China, Japan and Korea. Our faculty and programs in East Asian studies regularly achieve the highest rankings among peer institutions in the United States, making East Asian Studies at the University of Chicago an invaluable national resource and a focal point for East Asian Studies in the Midwest. CEAS has been designated a National Resource Center for East Asian Studies by the United States Department of Education.

Student fellowships, faculty research, and a wide range of events form the core of the Center's activities. For more information about graduate fellowships—including conference travel grants, pre-dissertation research grants, and other offerings—visit our website http://ceas.uchicago.edu (http://ceas.uchicago.edu/) and click on the 'RESOURCES' tab in the top menu and choose 'CEAS FUNDING' or choose the green 'FUNDING' icon on the home page.

In addition, the East Asian Film Library at CEAS is one of the largest such collections in North America, containing over 7,000 titles from China, Japan, and Korea. It is particularly strong in independent film, documentaries, WWII issues, LGBTQ in East Asia, anime, Korean dramas, and Chinese Opera. The Film Library is free for UChicago student, staff, or faculty use. For more information, please visit https://ceas.uchicago.edu/content/film-library/).

For more information about all of our initiatives and to sign up for our email lists, please visit http://ceas.uchicago.edu.



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## Center for East European and Russian/Eurasian Studies

Director

Eugene Raikhel

Associate Director

Esther Peters

Outreach and Campus Programs Coordinator

Matthew T. Weflen

Faculty

- Patrick Bergemann Booth School of Business
- Robert Bird Slavic Languages & Literatures, Cinema & Media Studies and the College
- Philip Bohlman Music and Committee on Jewish Studies
- John W. Boyer History and the College
- Margareta Ingrid Christian Germanic Studies
- Leah Feldman Comparative Literature
- Sheila Fitzpatrick History (Emerita)
- Cornell Fleischer Near Eastern Languages & Civilizations, History and the College
- Victor Friedman Linguistics and the College (Emeritus)
- Susan Gal Anthropology, Linguistics and the College
- Anastasia Giannakidou Linguistics and the College
- Eleonor Gilburd History
- Tom Ginsburg Law School
- Andreas Glaeser Sociology
- Lenore Grenoble Linguistics and the College
- Jonathan M. Hall History, Classics and the College
- Faith Hillis History and the College
- Leyla Ismayilova School of Social Service Administration
- Matthew Jesse Jackson Art History, Visual Arts, and the College
- Walter E. Kaegi History and the College (Emeritus)
- Hakan Karateke Near Eastern Languages & Civilizations
- Darryl Li Anthropology, Law School, and the College
- Boris Maslov Comparative Literature and the College
- John J. Mearsheimer Political Science and the College
- Paul Mendes-Flohr Divinity School
- Jason Merchant Linguistics and the College
- Monika Nalepa Political Science and the College
- William Nickell Slavic Languages & Literatures
- James Osborne Near Eastern Languages & Civilizations
- Charles Payne School of Social Services Administration
- John Perry Near Eastern Languages & Civilizations (Emeritus)
- Eric Posner Law School
- Marta Ptaszynska Music
- Eugene Raikhel Comparative Human Development and the College
- Bozena Shallcross Slavic Languages & Literatures and the College
- Holly Shissler Near Eastern Languages & Civilizations
- Olga Solovieva Comparative Literature and the College
- Konstantin Sonin Harris School of Public Policy
- Malynne Sternstein Slavic Languages & Literatures and the College
- Anna Elena Torres Comparative Literature
- Yuri Tsivian Art History, Slavic, Cinema & Media Studies, Comparative Literature and the College
- Robert Ward Vishny Booth School of Business

- John E. Woods History, Near Eastern Languages & Civilizations and the College
- Alan Yu Linguistics and the College
- Tara Zahra History and the College

Lecturers

- Helga Anetshofer Near Eastern Languages & Civilizations and the College
- Kagan Arik Near Eastern Languages & Civilizations and the College
- Mark Baugher Slavic Languages & Literatures
- Irena Cajkova Romance Languages and Literatures
- Hripsime Haroutunian Near Eastern Languages & Civilizations and the College
- Erik Houle Slavic Languages & Literatures
- Angelina Ilieva Slavic Languages & Literatures
- Larisa Jašarevi# Program in International Studies
- James A. Johnson Anthropology
- Owen Kohl Global Studies Program
- James Leitzel Public Policy Studies and the College
- Sasha Lindskog Slavic Languages & Literatures
- Nada Petkovic-Djordjevic Slavic Languages & Literatures
- Valentina Pichugin Slavic Languages & Literatures
- Diane P. Wood Law School

Library Personnel

Megan Browndorf - Slavic and East European Collections, Regenstein Library

Other Affiliates

- Leonid Gavrilov NORC
- Natalia Gavrilova NORC
- Natalia Tamarina School of Medicine
- Tasha Vorderstrasse Oriental Institute

The Center for East European and Russian/Eurasian Studies (CEERES) is an interdivisional center which promotes the study of, and research about, the countries of Central and Eastern Europe and the former Soviet Union. The University of Chicago has been providing instruction in disciplines of the CEERES region continuously since 1903, when courses in Russian language and area studies were begun. The center now known as CEERES has been in existence since 1965, and it continues to coordinate instruction and facilitate research about Russia/Eurasia and Eastern/Central Europe, including the Baltic States, the Balkans, the Caucasus, and Central Asia.

In addition to its robust language offerings, CEERES supports curricula which are particularly strong in Russian/ Soviet history; Slavic, Balkan, and Caucasian linguistics; nationalities studies of the former USSR; Slavic literatures (Russian, Polish, Czech, Balkan); Russian and East European cultural anthropology; comparative literature; Russian and East European film and art history; and business administration. CEERES affiliated faculty have expertise also in political science, international relations, economics, sociology, and Central and Eastern European, Byzantine, and Ottoman history. The center does not itself offer a separate master's degree; however, it does administer a joint A.M./M.B.A. degree through the Division of the Social Sciences in conjunction with the University of Chicago Booth School of Business. The faculty members that teach and do research in the CEERES area are supported by one of the best libraries in the country.

CEERES has a mission to disseminate information about and increase knowledge of a vast and diverse region of the world. We have a firm commitment to scholarship within the university community that extends to outreach to the greater Chicago community, the nation, and the world. We fulfill our mission through conferences, workshops, and seminars, including close collaboration with the Council on Advanced Studies workshops; by providing curricular support and administering Foreign Language and Area Studies (FLAS) Fellowships; by organizing teacher training workshops and assisting in developing CEERES-focused curricula for K-12 and community college instruction; and by hosting concerts and cultural programming, including music and dance performances, films, and art exhibits open to the general public. We have recently launched a new project with the Seminary Co-op Bookstore, an author series called A CEERES of Voices, promoting literature and scholarship about the CEERES region or by authors from the CEERES region. We publicize our activities at our website (ceeres.uchicago.edu (http://ceeres.uchicago.edu/)), through weekly e-bulletins sent through our listeerv, and through *East From Chicago*, a multimedia blog covering events and issues related to Russian and East European Studies at the University of Chicago (https://lucian.uchicago.edu/blogs/eastfromchicago/).



## The Enrico Fermi Institute

#### Director

Scott P. Wakely, Physics

Professors

- Edward Blucher, Physics
- John Eric Carlstrom, Astronomy & Astrophysics
- Cheng Chin, Physics
- Fred Ciesla, Geophysical Sciences
- Juan Collar, Physics
- Nicolas Dauphas, Geophysical Sciences
- Andrew Davis, Geophysical Sciences
- Henry J. Frisch, Physics
- Lawrence Grossman, Geophysical Sciences
- Jeffrey A. Harvey, Physics
- Craig Hogan, Astronomy & Astrophysics
- Daniel E. Holz, Physics
- Wayne Hu, Astronomy & Astrophysics
- Alexei Khokhlov, Astronomy & Astrophysics
- Young Kee Kim, Physics
- Edward W. Kolb, Astronomy & Astrophysics
- Arieh Königl, Astronomy & Astrophysics
- Andrey Kravtsov, Astronomy & Astrophysics
- David Kutasov, Physics
- Emil J. Martinec, Physics
- Sidney Nagel, Physics
- Angela Olinto, Astronomy & Astrophysics
- Mark J. Oreglia, Physics
- Paolo Privitera, Astronomy & Astrophysics
- Robert Rosner, Astronomy & Astrophysics
- Savdeep Sethi, Physics
- Melvyn Shochet, Physics
- Dam Thanh Son, Physics
- Michael S. Turner, Astronomy & Astrophysics
- Carlos Wagner, Physics
- Yau W. Wah, Physics
- Scott P. Wakely, Physics
- Robert M. Wald, Physics
- Liantao Wang, Physics
- Paul B. Wiegmann, Physics

#### Part-Time Faculty

- Marcela Carena, Professor of Physics (part-time with Fermilab)
- Kwang-Je Kim, Professor of Physics (part-time with Argonne)
- Michael Pellin, Professor of Geophysical Sciences (part-time with Argonne)
- Guy Savard, Professor of Physics (part-time with Argonne)

#### Assistant Professors

- Luca Grandi, Physics
- David W. Miller, Physics
- David Schmitz, Physics
- Abigail Vieregg, Physics

Emeritus Faculty

- Edward Anders, Chemistry
- Robert P. Geroch, Physics
- Roger H. Hildebrand, Astronomy & Astrophysics and Physics
- Edward James Kibblewhite, Astronomy & Astrophysics
- Donald Q. Lamb, Astronomy & Astrophysics
- Stephan Meyer, Astronomy & Astrophysics and Physics
- Frank S. Merritt, Physics
- Dietrich Müller, Physics
- Takeshi Oka, Astronomy & Astrophysics and Chemistry
- Eugene N. Parker, Astronomy & Astrophysics and Physics
- James E. Pilcher, Physics
- Jonathan L. Rosner, Physics
- John P. Schiffer, Physics
- James W. Truran, Astronomy & Astrophysics
- Donald G. York, Astronomy & Astrophysics

The Enrico Fermi Institute (http://efi.uchicago.edu/) is a Physical Sciences unit of the University devoted to interdisciplinary research. It was founded shortly after the Second World War as the 'Institute for Nuclear Studies' and is now named in honor of Enrico Fermi, who was one of the founders and a distinguished member of the Institute. All faculty members in the Institute hold joint appointments in one or more of the following departments: Physics (http://physics.uchicago.edu/), Astronomy and Astrophysics (http://astro.uchicago.edu/), Chemistry (http:// chemistry.uchicago.edu/), Geophysical Sciences (http://geosci.uchicago.edu/), and Mathematics (http://math.uchicago.edu/). Graduate students and postdoctoral scholars working with these faculty members also hold appointments and perform their research in the Institute.

The experimental disciplines currently being pursued include: high-energy particle physics, high-energy astrophysics, studies of particles and fields in the solar system and in space, infrared and optical astronomy, nuclear cosmo-chemistry, geochemistry, scanning electron and proton microscopy, and solar energy concentration. Theoretical studies include physics of elementary particles, quantum field theory, theoretical astrophysics and solar physics, plasma physics, cosmology, and general relativity.

The Enrico Fermi Institute provides engineering, technical and administrative support for the academic members and students. It includes a state-of-the-art electronics development group and facilities for mechanical design and construction, as well as computational equipment. Special resources include environmental test equipment, large-scale assembly facilities, computer aided design facilities, etc. This makes possible the design of complex instruments, and the in-house construction of detectors needed for experiments in the laboratory, with high-energy particle accelerators, on high-altitude balloons, and in space on satellites, deep space probes and the space shuttle. Most of the high-energy physics activity is focused on the Fermi National Accelerator Laboratory (http://www.fnal.gov/) ('Fermilab'), one hour's driving distance from the campus, but experiments are also planned and prepared for the LEP/LHC facility at CERN in Geneva, Switzerland. Offices and laboratories for faculty, students, and staff are located in three adjacent buildings: the Physics Research Center (formerly Lab for Astrophysics and Space Research), the Accelerator Building, and the Eckhardt Research Center. The Eckhardt Center, which replaces the Research Institutes building that stood at the corner of Ellis and 57th Street for more than 50 years, opened in autumn 2015, and is the new home of the Astronomy and Astrophysics Center. The Kavli Institute for Cosmological Research now also occupies space in the ERC. The Physics Research Center, following a major renovation, is the new home of the Enrico Fermi Institute, the High-Energy/Particle Physics group, and the Kadanoff Center for Theoretical Physics.

The Enrico Fermi Institute annually awards Enrico Fermi Postdoctoral Fellowships and McCormick Postdoctoral Fellowships on a worldwide competitive basis to recent Ph.D. recipients in astronomy, chemistry, physics, or planetary sciences. The purpose of these fellowships is to enable young scientists to work either independently or in close association with present members of the Institute in areas of mutual interest. The intellectual life in the Institute is enhanced by frequent visitors, Visiting Scholars and Distinguished Visiting Professors. The Institute also sponsors a popular Saturday morning public lecture series in the autumn and spring quarters, The Arthur H. Compton Lectures.

Chicago Pile No. 1 (CP-1) was constructed in a makeshift laboratory under the grandstands of Stagg Field Stadium on the University of Chicago campus. It was here that Enrico Fermi and his colleagues achieved the first self-sustaining controlled release of nuclear energy on December 2, 1942. In 1965, the site was designated a registered national historic landmark. The University celebrated the 75th-anniversary of this achievement in autumn 2017.



## The Morris Fishbein Center for the History of Science and Medicine

#### Director

Robert J. Richards

Faculty

- Lorraine Daston, Visiting Professor in Social Thought
- Arnold Ira Davidson, Philosophy
- James A. Evans, Sociology
- Jan Ellen Goldstein, History
- Adrian Johns, History
- Karin Knorr Cetina, Sociology
- Joseph Masco, Anthropology
- Michael Rossi, History
- Stephen M. Stigler, Statistics

Emeritus Faculty

- William C. Wimsatt, Philosophy
- Karl Matlin, Department of Surgery

Affiliated Faculty

William H. Sterner, CHSS Alumni

The Morris Fishbein Center for the History of Science and Medicine was inaugurated at the University of Chicago in 1970. Its mission is to facilitate studies in the history of science and medicine by students, post doctoral scholars, and faculty with interest in this field. It lends particular support to Ph.D. students pursuing the history of science. It maintains close cooperative relations with the Department of History and the Committee on the Conceptual and Historical Studies of Science.

Graduate study in the history of science and medicine can lead to a Ph.D. degree through either the Department of History or the Committee on Conceptual and Historical Studies of Science. An extremely flexible program enables students to draw on a wide range of formal courses and seminars. At the same time it is possible to define programs of individual study that can accommodate the specific needs of persons with quite different backgrounds and interests. Arrangements are normally made with science departments when further technical training or supervision seems advisable. Additional training and supervision are available through the co-operation of historians of science and medicine at other universities throughout the nation.

Programs are designed for those who wish to investigate the sciences and medicine in their religious, philosophical, literary and technological contexts, and to relate them to broad questions of social structure and cultural change. Requirements are listed under the Department of History and the Committee on Conceptual and Historical Studies of Science. Additional information describing the program and the types of financial aid available to students may be obtained on the center's web site: http://fishbein.uchicago.edu/ or by writing the Administrative Assistant of the Center, 1126 East 59th Street, Chicago, IL 60637 (bethcalderon@uchicago.edu).

Courses

A listing of courses representative of those offered by members of the center is also available at the CHSS website. (http://chss.uchicago.edu)



## The James Franck Institute

#### Director

Steven J. Sibener, Chemistry

#### Professors

- Laurie J. Butler, Chemistry
- Cheng Chin, Physics
- Aaron Dinner, Chemistry
- Todd Dupont, Computer Science
- Greg Engel, Chemistry
- Margaret Gardel, Physics
- Philippe Guyot-Sionnest, Chemistry
- William T. M. Irvine, Physics
- Eric D. Isaacs, Physics
- Heinrich M. Jaeger, Physics
- Woowon Kang, Physics
- Ka Yee Lee, Chemistry
- Kathryn J. Levin, Physics
- Peter B. Littlewood, Physics
- David A. Mazziotti, Chemistry
- Sidney R. Nagel, Physics
- Jiwoong Park, Chemistry
- Norbert F. Scherer, Chemistry
- Steven J. Sibener, Chemistry
- Dam Thanh Son, Physics
- Dmitri Talapin, Chemistry
- Andrei Tokmakoff, Chemistry
- Vincenzo Vitelli, Physics
- Gregory A. Voth, Chemistry
- Paul Wiegmann, Physics
- Linda Young, Physics
- Luping Yu, Chemistry

Associate Professors

- Dion L. Heinz, Geophysical Sciences
- Michael Levin, Physics
- Shinsei Ryu, Physics
- Jonathan Weare, Statistics
- Wendy W. Zhang, Physics

Assistant Professors

- Arvind Murugan, Physics
- David Schuster, Physics
- Jonathan Simon, Physics
- Bozhi Tian, Chemistry
- Suriyanarayanan Vaikununtanathan, Chemistry

Emeritus Faculty

- R. Stephen Berry, Chemistry
- Karl F. Freed, Chemistry
- Donald H. Levy, Chemistry
- Gene F. Mazenko, Physics

- Stuart A. Rice, Chemistry
- Thomas A. Witten, Physics

#### About the Institute

The James Franck Institute (http://jfi.uchicago.edu/) is the premier institute in the U.S. for interdisciplinary research at the intersection of physics, chemistry and materials science. The Institute is home to scientists from condensed matter physics, physical chemistry, synthetic materials chemistry, atomic, molecular, and optical (AMO) physics, geophysics, and biophysics. Most of the faculty in the Institute are also associated with the University of Chicago Materials Research Science and Engineering Center (http://mrsec.uchicago.edu/) (MRSEC), supported by the National Science Foundation.

The James Franck Institute was established after World War II as the Institute for the Study of Metals, with the present name being adopted in 1967 to reflect the emerging wider range of research activities covering the full spectrum of solids, liquids, and gases. Today, high-profile experimental and theoretical research in the Institute covers the areas of nanoscience, phase transitions, far-from-equilibrium phenomena, granular materials, low-temperature transport phenomena and superconductivity, ultracold atomic matter, quantum information, electronic structure, hydrodynamics, active matter, biophysics, and networks.

The Institute provides a stimulating environment for scientists of different disciplines to interact and aid each other's research. This facilitates pre- and postdoctoral researchers working jointly with mentors from different academic backgrounds. The intellectual environment in the Institute is further enriched by Senior Scientists, Senior Research Associates, Research Scientists and Visiting Scholars. Active colloquium and seminar series, as well as a more informal weekly 'bag lunch', stimulate information exchange. Housed in the Gordon Center for Integrative Science building, the Institute provides office and state-of-the-art laboratory space which operates a number of specialized research facilities. These include a low-temperature (cryogenics) laboratory, materials preparation and spectroscopic facilities, scanning probe and electron microscopes, and extensive shop facilities.

In an age where much cutting-edge research lies at the boundaries between traditional disciplines, the James Franck Institute fosters creative interdisciplinary work at the forefront of science.



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## Center for the Study of Gender and Sexuality

#### Department Website: http://gendersexuality.uchicago.edu

The Center for the Study of Gender and Sexuality coordinates courses and activities that take up gender and sexuality as primary objects of study and categories of analysis. Courses engage these domains in many different ways, including: the study of gender and/or sexuality as historical practice; scientific concept and site of representation; in social movements such as feminism and gay and lesbian liberation; feminist and queer theory; family structures; the gendering of labor force participation; representations of women in literature and the visual arts; intersections of race and gender, transnationalism; and women's and men's participation in politics.

Our courses fall under traditional disciplinary rubrics, and use gender and sexuality as categories of analysis to track contemporary transformations in these and other domains of knowledge. We are interested in developing points of comparison within and among diverse areas of organized knowledge, not assuming that gender means the same thing in different disciplines, historical moments, epistemologies, or cultural frameworks. We are also dedicated to fostering debate about the construction and implications of categories of gender difference and sexual identity. Further, we promote engagement with ways that gender and sexuality give us insight into other modes of social organization and change, including transformations of economic and political systems; media public spheres; forms of repression and resistance; modes of production, knowledge and experience; and everyday life.

The Center for the Study of Gender and Sexuality confers no graduate degrees at this time. It does, however, offer a graduate certificate (https://gendersexuality.uchicago.edu/academic/grad/certificate.shtml/) in Gender and Sexuality Studies for University of Chicago PhD students in any department or students in a variety of Masters level programs, including MAPSS, MSW and all Masters degrees in the Divinity School. The Master of Arts program in the Humanities (MAPH) offers a Gender and Sexuality Option (https://gendersexuality.uchicago.edu/academic/grad/maph.shtml/) that is equivalent to the certificate. We also foster graduate participation in the Center in several other ways. In addition to offering graduate courses, the Center sponsors lectures and symposia of interest to graduate students. It also encourages and supports graduate student initiatives for conferences and speakers, as well as student participation in the governance of the Center. Graduate students also have the opportunity to attend our bi-weekly Gender and Sexuality Studies Workshops (https://voices.uchicago.edu/genderandsexuality/) and/or the Gender and Sexuality Studies Working Group (https:// gendersexuality.uchicago.edu/events/workshops.shtml/). Each of these provides students with an opportunity to present their work and receive feedback from faculty (the workshop) or fellow students (the working group). We also host the The University of Chicago Law School Workshop on Regulating Family, Sex and Gender (https://www.law.uchicago.edu/ workshops/familysexgender/). Each year, the Center offers one or two dissertation completion fellowships, one joint dissertation fellowship with the Center for Race, Politics and Culture, as well as a number of residential fellowships (https:// gendersexuality.uchicago.edu/fellowships/fellowships.shtml/). In addition, we hold an annual call for graduate student teaching opportunities (https://gendersexuality.uchicago.edu/fellowships/teaching.shtml/), including co-teaching our theories or 'problems' courses or interning in our Gender and Sexuality in World Civilizations sequence. Students who have been coteachers can also apply to teach an undergraduate level self-designed, free-standing course.

The affiliated faculty (listed below) draw from departments, committees, and professional schools around the University. Members of the faculty support interdisciplinary work in gender and sexuality studies, even when their major course offerings are not directly gender or sexuality studies courses. Faculty also regularly direct master's theses in the field of gender and sexuality studies within the MAPSS and MAPH programs as well as Ph.D. dissertations in their own departments. Students interested in gender and/or sexuality studies who wish to earn advanced degrees leading to careers in research and teaching should apply for admission to the department in which their chief interest falls.

Please contact Bonnie Kanter, Student Affairs Administrator at the Center for the Study of Gender and Sexuality (773-702-2365; bonniek@uchicago.edu) for specific information regarding courses and programs. More information can also be found on the Center's website at http://gendersexuality.uchicago.edu/.

Faculty Director

Kristen Schilt - Sociology

Staff

- Gina Olson, Associate Director
- Tate Brazas, Program Coordinator
- Bonnie Kanter, Student Affairs Administrator

Affiliated Faculty (list by department available here (https://gendersexuality.uchicago.edu/research/faculty.shtml/))

- Margaret Andrews English
- Niall Atkinson Art History
- Leora Auslander History
- Shadi Bartsch-Zimmer Classics
- Orit Bashkin Near East Languages & Civilizations
- Kathleen Belew History

- Lauren G. Berlant English Language & Literature
- Dominique Blüher Cinema and Media Studies
- Alida Bouris Social Service Administration
- Larissa Brewer-Garcia Romance Languages and Literatures
- P. Sean Brotherton Anthropology
- Adrienne Brown English Language & Literature
- Bill Brown English Language & Literature
- Susan L. Burns History
- Emily Buss Law
- E. Summerson Carr Social Service Administration
- Mary Anne Case Law
- Kyeong Hee Choi East Asian Languages & Civilizations
- Elisabeth Clemens Sociology
- Cathy Cohen Political Science
- Jennifer Cole Comparative Human Development
- Heidi Coleman Theater and Performance Studies
- Patrick Crowley Art History
- Kristine Culp Divinity
- Jane Dailey History
- Shannon Dawdy Anthropology
- Daisy Delogu Romance Languages & Literature
- Rachel DeWoskin English Language and Literature
- Wendy Doniger Divinity
- Alreza Doostdar Divinity
- Sascha Ebeling Near East Languages & Civilizations
- Seth Estrin Art History
- Eve Ewing Social Service Administration
- Jacob Eyferth East Asian Languages & Civilizations
- Gina Fedock Social Service Administration
- Martha Feldman Music
- Claudia M. Flores Law
- Chelsea Foxwell Art History
- Sarah Fredericks Divinity
- Michelle Friedner Comparative Human Development
- Susan Gal Anthropology
- Yana Gallen Public Policy
- Edgar Garcia English
- Anastasia Giannnakidou Linguistics
- Melissa Gilliam Obstetrics and Gynecology
- Jan Ellen Goldstein History
- Alessandra González Economics
- Yanilda González Social Service Administration
- Ramón Gutiérrez History
- Elaine Hadley English Language & Literature
- Ghenwa Hayek Near Eastern Languages and Civilizations
- James Heckman Economics
- Julia Henly Social Services Administration
- Angie Heo Divinity
- Kimberly Kay Hoang Sociology
- Judy Hoffman Visual Arts
- Patrick Jagoda English Language & Literature
- Alison James Romance Languages & Literature
- Janet Johnson Near Eastern Languages & Civlizations
- Waldo Johnson Social Services Administration

- Demetra Kasimis Political Science
- Kara Keeling Cinema and Media Studies
- Micere Keels Comparative Human Development
- Robert L. Kendrick Music
- Karen Kim Medicine
- Janice Knight English Language & Literature
- Aden Kumler Art History
- Laura Letinsky Visual Arts
- David Levin Germanic Studies
- Amy Lippert History
- Jonathan Lyon History
- Agnes Lugo Ortiz Romance Languages & Literatures
- Zhiying Ma Social Service Administration
- Armando Maggi Romance Languages & Literature
- Rochona Majumdar South Asian Languages & Civilizations
- Jeanne Marsh Social Service Administration
- Jill Mateo Comparative Human Development
- Martha K. McClintock Psychology
- Josephine McDonagh English
- Françoise Meltzer Romance Languages & Literatures
- J. Mark Miller English Language & Literature
- Deborah Nelson English Language & Literature
- Sianne Ngai English
- Larry Norman Romance Languages & Literatures
- Martha C. Nussbaum Law
- Julie Orlemanski English
- Emily Lynn Osborn History
- Ada Palmer History
- Kaneesha Cherelle Parsard English
- Julia Phillips Visual Arts
- Johanna Ransmeier History
- Melissa Roderick Social Service Administration
- Danielle Roper Romance Languages and Literatures
- Martha Roth Near Eastern Languages & Civilizations
- Lisa C. Ruddick English Language & Literature
- Sophie Salvo Germanic Studies
- Zachary Samalin English
- Jennifer Scappettone English Language & Literature
- Kristen Schilt Sociology
- Anna Schultz Music
- Bozena Shallcross Slavic Languages & Literatures
- Richard Shweder Comparative Human Development
- William Sites Social Service Administration
- C. Riley Snorton English/Gender Studies
- Amy Dru Stanley History
- Justin Steinberg Romance Languages & Literature
- Malynne Sternstein Slavic Languages & Literatures
- Hilary Strang Humanities
- Rochelle Terman Political Science
- Sonali Thakkar English Language & Literature
- Anna Elena Torres Comparative Literature
- Jenny Trinitapoli Sociology
- Candace A. Vogler Philosophy
- Linda Waite Sociology

- Martha Ward Art History
- Lisa Wedeen Political Science
- Jennifer Wild Cinema & Media Studies
- David Wray Comparative Literature
- Wu Hung Art History
- Tara Zahra History
- Judith Zeitlin East Asian Languages & Civilizations
- Linda Zerilli Political Science



## Pozen Family Center for Human Rights

The Pozen Family Center for Human Rights (Pozen Center) at the University of Chicago supports innovative interdisciplinary teaching and research initiatives that critically explore the theory and practice of global human rights. This includes:

- **Rigorous liberal arts, graduate, and professional school curricula** that combine foundational research with practice-oriented training, including a Study Abroad program in Vienna, Austria, a two quarter Civilizations Core sequence, and a Minor in the College.
- Summer student internships with non-governmental organizations, government agencies, and international human rights bodies in the U.S. and across the world.
- Research that brings together faculty and students from across the disciplinary divisions and professional schools on issues such as health and human rights, human rights at home, arts and advocacy, migration and human rights, and human rights history.
- Projects and events to enhance the university's engagement with local, regional, national, and international human rights scholars, practitioners, and public officials.

#### Graduate student opportunities

Human Rights Workshop (https://humanrights.uchicago.edu/workshop/): brings together graduate students and faculty to discuss works in progress from a variety of disciplines.

Graduate Teaching Opportunities (https://pozen.herokuapp.com/graduateteaching/): teaching assistantships, internships in the Civilizations core, lectureships for self-designed courses, and co-teaching with faculty.

Graduate Certificate in Human Rights Studies (https://pozen.herokuapp.com/about/): available to doctoral students with approved human rights coursework and research.

Ignacio Martín-Baró Human Rights Essay Competition (https://pozen.herokuapp.com/awards/): cash prize of \$500 awarded to the best essay in three student categories (College, Master's/Professional, and Doctoral).

Pozen Research Grants for PhD Students (https://pozen.herokuapp.com/awards/researchgrants/): grants of up to \$5,000 to support both pre-dissertation and dissertation research projects, awarded to PhD students in the Humanities and Social Sciences.

Pozen Human Rights Dissertation Completion Fellowship (https://pozen.herokuapp.com/awards/ dissertationfellowship/): one year-long fellowship awarded to a doctoral student in the Humanities or Social Sciences whose work makes an important contribution to human rights scholarship.

#### Contact

Mark Philip Bradley (History) (mbradley@uchicago.edu) Faculty Director

Pozen Center website: https://humanrights.uchicago.edu/



## The Center for International Social Science Research

#### Director

Jenny Trinitapoli (Sociology)

Faculty Board

- Emily Lynn Osborn (History)
- Paul Poast (Political Science)
- Alan Kolata (Anthropology)

Center Supervisor

Alexis Puzon

The Center for International Social Science Research (CISSR) is an eclectic intellectual community devoted to nourishing empirical international research across the social sciences. We seek to spark and sustain critical discussions that traverse disciplinary, methodological, and geographic boundaries. CISSR supports work that informs and transforms debates on global issues within the academy and beyond.

To promote the pursuit of social science and the study of topics that are global in nature at the University, CISSR sponsors a Research Fellowships program, annual book workshops, and other research activities.

- The CISSR Faculty Research Fellows Program is designed to bring social scientists who study different parts of
  the world using different methods and theoretical approaches together in a common space. Rooted in the belief that the
  best research is produced through critical and constructive conversations in an inclusive community of global scholars,
  CISSR activities allow fellows to share their findings, while also exposing them to new perspectives and localities.
  Through sustained interactions with their peers, and with CISSR financial and administrative support, fellows can refine
  their research and amplify its impact.
- CISSR provides faculty with book support through workshops and monograph enhancement awards, which are
  designed to help faculty produce the highest quality manuscripts possible.
- CISSR supports graduate research through Dissertation Support Grants and the Lloyd and Susanne Rudolph Field Research Awards.

CISSR succeeds and builds upon the legacy of the Center for International Studies (CIS). Established fifty years ago, CIS helped catalyze the integration of international perspectives into the University's graduate and undergraduate programs. The successes of those efforts are visible today in many curricular and pedagogic programs, from the strength of our library collections and diversity of our language offerings to the richness of undergraduate opportunities such as the Program on the Global Environment, the International Studies major, and the breadth of Civilizations Studies options, to name a few.



## Joyce Z. and Jacob Greenberg Center for Jewish Studies

#### Director

Na'ama Rokem, Near Eastern Languages & Civilizations and Comparative Literature

Professors

- Leora Auslander, History
- Orit Bashkin, Near Eastern Languages & Civilizations
- Philip Bohlman, Music
- Arnold I. Davidson, Philosophy, Divinity, and Comparative Literature
- Michael Fishbane, Divinity
- Cornell Fleischer, Near Eastern Languages & Civilizations
- Hakan Karateke, Near Eastern Languages & Civilizations
- David Levin, Germanic Studies
- · Françoise Meltzer, Romance Languages and Literatures, Comparative Literature, and Divinity
- David Nirenberg, Social Thought and History
- Martha Nussbaum, Law, Philosophy, and Divinity
- Dennis Pardee, Near Eastern Languages & Civilizations
- James Robinson, Divinity
- Martha Roth, Oriental Institute and Near Eastern Languages & Civilizations
- Eric Santner, Germanic Studies
- David Schloen, Near Eastern Languages & Civilizations
- Bo#ena Shallcross, Slavic Languages and Literatures
- Tara Zahra, History
- Laurie Zoloth, Divinity

Associate Professors

- Simeon Chavel, Divinity
- Sarah Hammerschlag, Divinity
- Faith Hillis, History
- William Nickell, Slavic Languages and Literatures
- Richard Payne, Near Eastern Languages & Civilizations and History
- Na'ama Rokem, Near Eastern Languages & Civilizations
- Anna Schultz, Music
- Jeffrey Stackert, Divinity
- Sofia Torallas-Tovar, Classics and Near Eastern Languages & Civilizations

#### Assistant Professors

- Maria Anna Mariani, Romance Languages and Literatures
- Raoul Moati, Philosophy
- Sonali Thakkar, English Language and Literature
- Anna Torres, Comparative Literature

Associate Professors of Practice in the Arts

- Rachel DeWoskin, Creative Writing
- Geof Oppenheimer, Visual Arts

Senior Lecturers

- Ari Almog, Near Eastern Languages & Civilizations and Comparative Literature
- Assistant Instructional Professors
- Jessica Kirzane, Germanic Studies

University Associate Members

- Stuart Creason, Near Eastern Languages & Civilizations
- Anne Knafl, Bibliographer for Religion and Philosophy
- Albert Madovsky, Booth School of Business
- Gil Stein, Near Eastern Languages & Civilizations

#### Emeritus Members

- Howard I. Aronson, Slavic Languages & Literatures
- Ralph Austen, History
- Michael Geyer, History
- Samuel Jaffe, Germanic Studies
- Ralph Lerner, Social Thought
- Paul Mendes-Flohr, Divinity
- Judith Nadler, Library
- Shulamit Ran, Music
- Jerrold Sadock, Linguistics
- Josef Stern, Philosophy
- Bernard Wasserstein, History

Jewish Studies has been an important field of research at The University of Chicago since the days when its first president, the Biblical scholar William Rainey Harper, oversaw the beginnings of programs in Bible and Ancient Near Eastern Civilizations. In addition to Professor Harper, Rabbi Emil Gustav Hirsch taught Jewish Studies from the very founding of the university. In 1892 he was appointed one of the first four full professors at the fledgling university, occupying a chair in "Rabbinical Literature and Philosophy." He held the chair until his death in 1923. In fact, the University of Chicago was one of the first universities in the world to have a full-fledged program in Jewish Studies. A few decades later, these early initiatives received a huge institutional boost with the founding of the Oriental Institute, which remains one of the preeminent centers for the study of ancient Near Eastern language, civilization, and archeology, But the flourishing of Jewish Studies over the years at Chicago has also been sustained by appointments in a wide range of departments: professorships of Jewish Hellenism in Classics, Medieval Jewish Philosophy in Philosophy, Jewish Social and Economic History in History, to name only a few. During the past decade, the University has appointed eminent scholars in the study of Hebrew Bible, Midrash, Jewish Medieval Studies, Hebrew Literature, American Jewish Literature, and German Jewish Culture. Working together, they have created one of the most modern comprehensive, distinguished, and interdisciplinary programs in Jewish Studies available at any American university. Students can make full use of the resources in Jewish Studies available through the Divinity School, the departments of Germanic Studies, History, Linguistics, Philosophy, Music, Near Eastern Languages & Literature, and the Oriental Institute.

#### Academic Opportunities

Graduate students in Jewish Studies at the University of Chicago earn their degrees in a department, school, or committee, while supplementing their disciplinary training through participation in the inter-disciplinary activities and scholarship opportunities offered by the Center. Students who wish to pursue graduate work in an area of Jewish Studies should apply to the appropriate department, school, or committee, and not to the Greenberg Center for Jewish Studies. The following departments and schools offer specialized graduate study in the following tracks or programs of Jewish Studies:

#### The Divinity School

- Biblical Studies
  - Hebrew Bible and the Ancient Near East
  - Hebrew Bible and Early Jewish Literature
- Jewish and Christian Bible
- History of Judaism
- Rabbinic literature, Midrash, and mysticism
- Medieval Jewish philosophy, thought, and literature (including Islamic philosophy)
- Modern Jewish thought and intellectual history

For information about the Divinity School please visit http://divinity.uchicago.edu (http://divinity.uchicago.edu/).

Department of Germanic Studies

- German-Jewish Intellectual History
- Yiddish Language, Literature, and Culture

For information about the Department of Germanic Studies please visit http://german.uchicago.edu (http://german.uchicago.edu/).

#### Department of History

Modern Jewish History

For information about the Department of History please visit http://history.uchicago.edu (http://history.uchicago.edu/).

Department of Near Eastern Languages and Civilizations (NELC)

- Near Eastern Judaica (including Modern Hebrew Studies and Hebrew Studies)
- Northwest Semitic Philology (including Hebrew, Phoenician-Punic, Ugaritic, Aramaic, and Syriac)
- Ancient Near Eastern History (including the ancient history of Syria-Palestine)
- Near Eastern Art and Archaeology
- Modern Hebrew Language and Literature
- Islamic History and Civilization (including the study of Jews in the Islamic world)
- Islamic Thought (including the interaction between Jewish and Islamic thought)

For more information about NELC please visit http://nelc.uchicago.edu/.

In addition, students and faculty work in specific areas of Jewish Studies in the Departments of Music, Philosophy, Political Science, and Slavic Languages and Literatures.

The Greenberg Center for Jewish Studies seeks to provide a common space in which graduate students of all disciplines working in the diverse areas of Jewish Studies can participate in a rich and lively intellectual community. We plan interdisciplinary graduate courses, lectures and conferences, and graduate workshops and seminars for faculty and students. The faculty of the Center guide students to the multiple opportunities for the study of Judaism and Jewish culture available across the university. In addition, the Center awards research and travel grants and dissertation year fellowships to students in any department and school working on topics related to Jewish Studies. Prospective and current students should keep in mind that, given the deeply ingrained interdisciplinary culture of the University of Chicago, their opportunities for study and research can range across the entire faculty in addition to the resources of their home department or unit. Although each program has its own requirements, students typically take courses and seminars in departments other than their own, and dissertation committees often include faculty from multiple departments, thus reflecting the interdisciplinary nature of graduate study at this university.

#### Jewish Studies & Hebrew Bible Workshops

Bringing together faculty and students from across various disciplines, the Jewish Studies and the Hebrew Bible workshops seek to provide a forum for vibrant discourse and critical reflection on work and topics included in these broad fields of Judaica. From Jewish language, literature, and music to religion and philosophy, these workshops look to engage students and faculty interested in Jewish studies while stretching them to think beyond the strictures that currently typify their sub-disciplines.

#### Research and Library Resources

The University of Chicago library system serves the research and study interests of faculty and students and houses a bound volume and microfilm collection of more than 5 million volumes; a manuscript and archival collection of over 7 million pieces; serial holdings of some 95,000 titles; and a photographic study collection of visual art of more than 500,000 pieces. The physical facilities of the library system consist of the Joseph Regenstein Graduate Research Library, supporting research activities and graduate programs in the humanities and social sciences; Harper Memorial Library, serving primarily students in the College; and six professional and departmental libraries. Regenstein Library provides the central location for research materials in the humanities, the social sciences, and the ancient and modern languages, an array of resources numbering more than 3 million volumes.

Regenstein Library contains the Department of Special Collections, a major repository of archival and rare published materials. Regenstein also houses the Middle East Collection, with rich holdings in Assyriology and Egyptology. Of particular interest to students in Jewish Studies is the unique Ludwig Rosenberger Collection, which contains thousands of items in German Judaica. In addition, the Oriental Institute maintains extensive holdings in ancient Near Eastern and biblical studies and archaeology.

Library resources are not limited to the University community. The libraries of the cluster of five theological schools in the University neighborhood enrich the available library facilities by more than 1,000,000 volumes. The libraries of the Art Institute and the Chicago Historical Society also contain extensive resources for historical study. The Newberry Library, located on Chicago s Near North Side, is a world-renowned research collection of some 1,000,000 titles and 5,000,000 manuscripts in the humanities, chiefly in history, literature, music, and philosophy, with special strengths in European, American, and Latin American history and literature.

#### Student Funding and Opportunities

#### Dissertation Year Fellowship

The Greenberg Center for Jewish Studies periodically offers Dissertation Year Fellowship(s) for students in all Divisions and Schools at the University of Chicago pursuing projects on any topic relating to Jewish Studies, including (but not restricted to) study of the history, culture, and thought of the Jews, classical and modern Jewish texts, and languages of the Jews (e.g., biblical through modern Hebrew, Yiddish).

#### Travel and Research Grants

The Greenberg Center for Jewish Studies awards grants to students to support their work in any area of Jewish Studies. Eligible expenses include (1) research travel and materials, and (2) advanced foreign language study in an accredited program (beyond the level offered at the University). Because funds are currently limited, priority will be given to proposals in the order listed. Awards are also available for conference travel and fees when a paper has been accepted for presentation. Students may combine their awards with funding from other sources.

For additional information about the Jewish Studies program, please see ccjs.uchicago.edu (http://lucian.uchicago.edu/blogs/ccjs/)


# Center for Latin American Studies

#### Overview

Established in 1968, the University of Chicago Center for Latin American Studies (CLAS) brings together faculty and students across the University in interdisciplinary and interdivisional research, teaching, scholarly events, and public engagement related to this vital region of the world.

The Center for Latin American Studies:

- works closely with faculty to support their teaching and research, actively sponsors programs for visiting
  academics, and maintains a quarterly list of courses related to Latin America and the Caribbean (https://
  clas.uchicago.edu/academic-programs/courses/)
- administers academic programs, including BA major and minor programs (https://clas.uchicago.edu/academic-programs/BA-programs/) and a graduate certificate (https://clas.uchicago.edu/academic-programs/grad-certificate/) for students across MA and PhD programs
- funds study/research and provides teaching opportunities (https://clas.uchicago.edu/academic-programs/funding/) for graduate students across divisions and programs
- promotes interdisciplinary research, education, discussion, and debate around myriad topics relevant to Latin America, through scholarly and public engagement programs (https://clas.uchicago.edu/programs/).

A full description of CLAS programming is available at the Center's website (https://clas.uchicago.edu/).

Graduate Certificate in Latin American and Caribbean Studies

The University of Chicago is a premier institution for research, teaching, and graduate study in the histories, cultures, politics, economies, and languages of Latin America and the Caribbean. More than 50 faculty members from throughout the graduate divisions and professional schools of the University focus their teaching and/or research on Latin America and the Caribbean, offering a wide range of disciplinary and regional coverage.

## Eligibility and Requirements

All students who are enrolled full time in a graduate degree program at the University of Chicago are eligible to apply for the Latin American and Caribbean Studies (LACS) certificate. Students may submit a certificate application at any stage of their master's or doctoral programs, but must do so at least one quarter prior to graduation. This certificate provides proof of area studies specialization, and will be noted on the transcript; all courses may be double counted toward both degree requirements and the LACS certificate. All coursework completed for the certificate must be taken for a quality grade.

A certificate will be granted when an applicant has fulfilled all course requirements in their degree program and the following certificate requirements, explained in more detail on the CLAS website (https://clas.uchicago.edu/academic-programs/grad-certificate/):

- 1 foundational course in Latin American and Caribbean Studies
- 3 additional courses in Latin American and Caribbean Studies
- Demonstrated language proficiency in Spanish, Portuguese, Haitian Kreyol, or a relevant indigenous language
- A major research project (typically an MA thesis or doctoral dissertation) on a theme or topic related to Latin
   America and/or the Caribbean
- Presentation of academic work at the Latin American History Workshop or Workshop on Latin America and the Caribbean (CLAS staff are available to assist with arrangements)
- In addition, *doctoral students* are required to demonstrate at least one year of active participation in the Latin American History Workshop or the Workshop on Latin America and the Caribbean.

Interested students are strongly encouraged to meet with the LACS program adviser as soon as they decide to pursue the certificate so that CLAS can provide guidance on requirements and monitor progress toward the certificate. *Each MA certificate applicant* will meet with the program adviser to discuss their plan for completion of certificate requirements, cultivate their research interests, and identify a faculty adviser for the master's thesis. At any point before, during, or after the completion of certificate requirements, all students are welcome to meet with the CLAS faculty director or the program adviser to discuss their goals and the relevance of the Latin American and Caribbean Studies certificate to their research.

## CLAS Staff

Natalie Arsenault | Associate Director email: ncarsenault@uchicago.edu phone: 773.702.9741

Lindsay Ortega | Student Affairs Coordinator, Office Manager email: lindsayortega@uchicago.edu phone: 773.702.8420

Diana Schwartz Francisco | Assistant Instructional Professor, LACS Program Adviser email: dischwartz@uchicago.edu phone: 773.702.0707

## CLAS Website

http://clas.uchicago.edu/

## Affiliated Faculty

https://clas.uchicago.edu/about/people/affiliated-faculty-lecturers-postdocs (https://clas.uchicago.edu/about/people/affiliated-faculty-lecturers-postdocs/)

- Michael Albertus Department of Political Science
- Fernando Alvarez Department of Economics
- Jessica Swanston Baker Department of Music
- Maria Angélica Bautista Harris School of Public Policy
- Natalia Bermúdez Department of Linguistics
- Christopher Blattman Harris School of Public Policy
- Dain Borges Department of History
- Larissa Brewer-García Department of Romance Languages and Literatures
- Claudia Brittenham Department of Art History
- P. Sean Brotherton Department of Anthropology
- Chad Broughton Department of Public Policy Studies (College)
- Leonardo Bursztyn Department of Economics
- Miguel Caballero Vazquez Humanities
- Honey Crawford Theater and Performance Studies
- Shannon Dawdy Department of Anthropology
- Frederick A. de Armas Department of Romance Languages and Literatures
- Oeindrila Dube Harris School of Public Policy
- Brodwyn Fischer Department of History
- René D. Flores Department of Sociology
- Rachel Galvin Department of English
- Angela García School of Social Service Administration
- Edgar Garcia Department of English
- Yanilda María González School of Social Service Administration
- Ramón Gutiérrez Department of History
- Susan R. Gzesh Department of Human Rights
- James Heckman Department of Economics
- Dwight Hopkins Divinity School
- Ryan Jobson Department of Anthropology
- Sarah Jessica Johnson Department of English
- Robert L. Kendrick Department of Music
- Alan Kolata Department of Anthropology
- Emilio H. Kourí Department of History
- Ali Kulez Humanities
- Benjamin Lessing Department of Political Science
- Ana Maria Lima Department of Romance Languages and Literatures
- Victor Lima Department of Economics
- Maria Cecilia Lozada Department of Romance Languages and Literatures
- Agnes Lugo Ortiz Department of Romance Languages and Literatures
- Luis Martinez Harris School of Public Policy
- Miguel Martínez Department of Romance Languages and Literatures
- Alicia Menendez Harris School of Public Policy
- Salikoko Mufwene Department of Linguistics
- Sarah Newman Department of Anthropology
- Angela V. Olinto Department of Astronomy and Astrophysics

- Stephan Palmié Department of Anthropology
- Kaneesha Parsard Department of English Language and Literature
- Mercedes Pascual Department of Ecology and Evolution
- Pablo Pena Department of Economics
- James Robinson Harris School of Public Policy
- Danielle Roper Department of Romance Languages and Literatures
- Mario Santana Department of Romance Languages and Literatures
- Victoria Saramago Department of Romance Languages and Literatures
- Diana Schwartz Francisco Center for Latin American Studies/Department of History
- Salomé Aguilera Skvirsky Department of Cinema and Media Studies
- Susan Stokes Department of Political Science
- Megan Sullivan Department of Art History
- Mauricio Tenorio Department of History
- Mareike Winchell Department of Anthropology
- Austin L. Wright Harris School of Public Policy
- Alan Zarychta School of Social Service Administration
- Erik Zyman Department of Linguistics



## Center for Middle Eastern Studies

#### Director

A. Holly Shissler

Deputy Director

Orit Bashkin

Deputy Director for Academic Programs

Paul E. Walker

Associate Director

- Thomas E.R. Maguire
- Project Assistant
- Benjamin Chametzky
- Outreach Coordinator and Director of the Middle East Education Initiative
- Krishna Kulkarni

The Middle Eastern Studies faculty are listed at http://cmes.uchicago.edu/.

The Center for Middle Eastern Studies offers an interdisciplinary Master of Arts program designed for students who wish to use their knowledge of the Middle East in carcers other than university teaching and research. The program is also suitable for students considering an academic career who have not had the appropriate academic background for direct entrance into a doctoral program. Language and area studies preparation may be supplemented by relevant course work in a professional school or department. Students may be admitted to the Master of Arts program in either the Division of the Social Sciences or the Humanities and will receive the degree from the division through which they have registered. Students with significant previous training in Middle Eastern or Islamic studies who wish to earn a doctoral degree leading to careers in research and college or university teaching should apply for admission directly to one of the graduate doctoral departments or committees of the University.

There are two tracks—modern and ancient—for the MA program in Middle Eastern Studies. The modern program covers the time period from the rise of Islam until the present. The ancient track, offered in collaboration with the faculty of the Department of Near Eastern Languages and Civilizations, focuses on the cultures and languages of the ancient Near East. The application process, degree requirements, and the rules and conditions for financial aid are similar for both programs.

#### Admission

Applicants for the Master of Arts in Middle Eastern Studies are expected to meet the graduate admission requirements of the University and of the division to which they apply. In addition, applicants to the Middle Eastern Studies program must submit an academic writing sample. Foreign students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Students must enter the program in the autumn quarter. Although the program is designed for full time students, applications from those who can attend only on a part time basis will be considered.

#### How to Apply Through the Division of Humanities

The application process for admission and financial aid for all Humanities graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online (http://humanities.uchicago.edu/students/admissions/apply-now/).

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

#### How to Apply Through the Division of the Social Sciences

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online (https://socialsciences.uchicago.edu/admissions/).

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

Joint Program in Business Administration and Middle Eastern Studies

Benefiting from the combined strengths of the Center and the Graduate School of Business (http:// www.chicagobooth.edu/) -- one of the finest business schools in the country -- this three-year program helps students gain a firm grasp of the languages, history, and social institutions of the Middle East while acquiring the basic skills for careers in international business. To apply for the joint M.A. in Middle Eastern Studies/Masters in Business Administration, please click here (http://www.chicagobooth.edu/programs/full-time/admissions/).

#### Joint Program in Public Policy and Middle Eastern Studies

This dual degree program addresses the needs of students wishing to acquire a solid background in modern Middle Eastern languages, history, and civilization while developing their abilities in policy analysis in preparation for professional careers in scholarly, educational, governmental, non-governmental, and business environments in the United States and abroad. This program requires approximately 5 quarters of study in the Center for Middle Eastern Studies and 4 quarters of study in the Harris School of Public Policy (http://harris.uchicago.edu/admissions-and-aid/). Applicants for the joint program must apply to both the Harris School (https://harris.uchicago.edu/) and the Division of the Social Sciences (https:// socialsciences.uchicago.edu/admissions/) separately.

## Program requirements

The requirements are satisfactory completion of:

- Six quarters of a Middle Eastern (ancient or modern) language (through at least two year proficiency);
- One quarter core colloquium: Approaches to the Study of the Middle East, or Approaches to the Study of the Ancient Near East;
- For the modern track, three quarters of an approved integrated Middle Eastern survey course; for the ancient track, three survey courses in the History, Archaeology and Cultures of the Ancient Near East (see below under "Core Courses");
- Seven courses in relevant electives;
- One course in thesis preparation, or reading and research;
- A master's thesis.

Only courses taken for a quality grade count toward fulfilling the requirements. No P or R grades will be accepted.

Elective courses may concentrate on one area or explore several of the fields of ancient or modern Middle Eastern studies such as, for example, Archaeology, Cuneiform Studies, Egyptology, Semitic linguistics, Arabic, Persian or Turkish literature, as well as related disciplines such as Art History, Anthropology, Classics, History, Linguistics, Political Science and Sociology.

#### Language

Placement interviews will be given so that entering students may register for courses at the appropriate level of instruction. The languages offered include: Akkadian, Arabic, Armenian, Egyptian (Ancient), Hebrew (classical and modern), Hittite, Persian, Sumerian, Turkish, and Uzbek.

#### Core Courses

For the modern track MA, all students are required to take the core colloquium Approaches to the Study of Middle East (CMES 30001). Students must enroll in one of the following three quarter sequences: Islamic History & Society (NEHC 31000, 31100, 31200/HIST 35704, 35804, 35904), or Islamic Thought & Literature (NEHC 30601, 30602, 30603/ SOSC 22000, 22100, 2220). For the ancient track MA, students are required to take the core colloquium Approaches to the Study of the Ancient Near East and must enroll in at least three survey courses in the History, Archaeology and Cultures of the Ancient Near East, covering at least three different geographic areas (Egypt and Nubia; Mesopotamia; Anatolia; the Levant; Iran; etc.). Relevant courses are listed on the website of the department of Near Eastern Languages and Civilizations (https:// nelc.uchicago.edu/courses (https://nelc.uchicago.edu/courses)) at the beginning of each academic year. These courses should be chosen in consultation with the Graduate Advisor for the CMES Ancient Track MA.

#### Master's Thesis

Students are required to submit a master's thesis that should deal with a problem relevant to the student's intended career and should give evidence of the specialized disciplinary aspects of his or her training. The student's program adviser and a faculty member with special interest in the subject of the paper will guide the research and writing of the paper and judge whether it exhibits proof of competence in the field. During the writing of the paper, the student will register for a thesis preparation or reading and research course. The thesis title will be listed on the student's transcript.



## NORC

## NORC at the University of Chicago

NORC at the University of Chicago is a non-partisan, objective research institution that delivers reliable data and rigorous analysis to guide critical programmatic, business, and policy decisions. Since 1941, NORC has conducted groundbreaking studies, created and applied innovative methods and tools, and advanced principles of scientific integrity and collaboration. Today, government, corporate, and nonprofit clients around the world partner with NORC to transform increasingly complex information into useful knowledge. NORC conducts research in five main areas: Economics, Markets, and the Workforce; Education, Training, and Learning; Global Development; Health and Well-Being; and Society, Media, and Public Affairs. Headquartered in downtown Chicago, NORC works in over 40 countries around the world, with additional offices on the University of Chicago campus, the DC metro area, Atlanta, Boston, San Francisco, Silicon Valley, Albuquerque, and Wichita.

NORC's long tradition of rigorous, transparent, and objective research has been fostered and reinforced by its long-standing relationship with the University of Chicago. As a result of this this inspired affiliation, the reputations of each institution, as well as the quality of knowledge they produce, has been greatly enhanced.

NORC has pioneered methodological innovations which advance the science of survey research and maintains an active presence in the research and teaching life of the Divisions of the Social Sciences and Biological Sciences, as well as the Pritzker School of Medicine, the Harris Graduate School of Public Policy Studies, and the School of Social Service Administration. NORC conducts nationwide surveys that are used as data resources for social scientists and policy analysts throughout the world. It employs a field staff of over 1,000 trained interviewers and conducts more than 30 surveys each year on such topics as the costs and practices of health care, environmental studies, substance abuse, education, labor, family, and the attitudes of Americans. NORC has been conducting the General Social Survey (GSS) since 1972; the GSS is the most frequently used dataset in sociology aside from the U.S. Census.

In addition to its core research areas, NORC also maintains the Academic Research Centers (ARC) which occupy office space in the Harris School building on the University of Chicago campus. The ARC provides a collegial, interdisciplinary environment in which University of Chicago faculty can conduct empirical social science research in collaboration with a team of NORC researchers committed to developing collaborations across departments and divisions at the University. While there are currently four research projects that have evolved well beyond the purview of these specific content area centers and now constitute the larger portion of the department's work. The four centers are:

- The Aging Action Research Center functions as a substantive hub for research on aging within and outside of NORC, acting as a knowledge broker for the development of design-based research, dissemination to stakeholders, innovation in survey research methods, and management of grant programs.
- The Center for the Study of Politics and Society focuses on the investigation of societal change. The National
  Data Program for the Social Sciences is the CSPS's largest component and its major activity is the regular collection
  and distribution of the General Social Survey and its allied surveys in the International Social Survey Program.
- The Early Childhood Research and Practice Collaborative fosters research-practice partnerships that apply
  rigorous research/evaluation methods and the latest development science to address pressing needs and challenges faced
  by early childhood educators in formal and informal learning environments, policymakers, and investigators.
- The Ogburn-Stouffer Center for the Study of Social Organizations promotes innovative, theoreticallyinformed, empirical research on population, political attitudes and decision making, community, health, social inequality, and social structure. A core mission is to promote the training of graduate students in the social sciences through involvement in all phases of large-scale survey research from development to execution and analysis.

University students participate in NORC's activities in several ways. NORC offers a dynamic hands-on summer intern program open to graduate students. NORC has given countless graduate students experience in real-world social science research. More than 100 UChicago students have worked as GRAs (Graduate Research Assistants) during the last six years. UChicago, NORC, and ARC are committed to employing and training university students as a critical part of their professional development. NORC researchers who also hold University faculty positions often become lifelong mentors to these students. Some graduate students receive support through NORC for their own research in the writing of dissertations; many attend conferences and weekly workshops that are sponsored by and held at NORC. NORC employs many University graduates at professional career levels.



# The Center for the Study of Race, Politics, and Culture

## Directors

Salikoko S. Mufwene, Interim Faculty Director

Tracye A. Matthews, Executive Director

## Faculty

- Daniel Abede Law School
- Anjali Adukia– Public Policy
- Jessica Swanston Baker– Music
- Kathleen Belew- History
- Lauren Berlant- English
- Philip Bohlman- Music and the Humanities in the College
- Dain Borges- History
- Larissa Brewer-Garcia- Romance Languages & Literatures
- Matthew Briones- American History and the College
- P. Sean Brotherton-- Anthropology
- Chad Broughton-Public Policy & Chicago Studies Program
- Adrienne Brown– English
- Kerwin Charles- Harris School of Public Policy
- Yoon Sun Choi– School of Social Service Administration
- Julie Chu– Anthropology
- Cathy Cohen– Political Science
- Jennifer Cole– Human Development
- Herschella Conyers– Law School
- Jane Dailey– American History
- Shannon Dawdy– Anthropology
- Michael Dawson– Political Science
- Daniel Desormeaux– French Literature
- Justin Driver- Law School
- Darby English- Art History
- Matthew Epperson School of Social Service Administration
- Curtis Evans– Divinity
- Eve Ewing School of Social Service Administration
- Leah Feldman Comparative Literature
- Allyson Nadia Field- Cinema and Media Studies
- Brodwyn Fischer- History
- Raymond Fogelson– Anthropology
- Anton Ford– Philosophy
- Craig Futterman– Law School
- Rachel Galvin– English
- Angela Garcia– School of Social Service Administration
- Marco Garrido– Sociology
- Theaster Gates- Visual Arts
- Adom Getachew– Political Science
- Melissa Gilliam- Medicine; Vice Provost for Academic Leadership, Advancement, and Diversity
- Adam Green– History
- Yanilda María González- School of Social Service Administration
- Ramón Gutiérrez– History
- Angie Heo- Divinity School
- Kimberly Kay Hoang- Sociology
- Thomas Holt- History
- Dwight Hopkins– Theology in the Divinity School

- Travis Jackson– Music and the Humanities
- Waldo E. Johnson, Jr.- School of Social Service Administration
- Arthur Damon Jones- Harris School Public Policy
- Micere Keels- Comparative Human Development
- John Kelly– Anthropology
- Karen Kim–Medicine
- Emilio Kouri- History
- Loren Kruger- Comparative Literature and English
- Jennifer Kubota– Psychology
- Jonathan Levy- History
- Agnes Lugo-Ortiz- Romance Languages & Literatures
- Omar M. McRoberts– Sociology
- Doriane Miller– Medicine
- Reuben Jonathan Miller– School of Social Service Administration
- Salikoko Mufwene– Linguistics
- Eric Oliver– Political Science
- Olufunmilayo Olopade- Medicine
- Emily L. Osborn- History
- Stephan D. Palmié– Anthropology
- Monica Peek– Biological Sciences Division
- Srikanth'Chicu' Reddy-English
- François G. Richard– Anthropology
- Shantá Robinson– School of Social Service Administration
- Selwyn O. Rogers- Medicine
- Danielle Marion Roper- Romance Languages and Literature
- Julie Saville- History
- Gina Miranda Samuels- School of Social Service Administration
- Margaret Beale Spencer- Comparative Human Development
- · Jacqueline Stewart- Cinema and Media Studies
- Christopher Taylor- English
- Vu Tran– Creative Writing
- Robert Vargas- Sociology
- Monica Vela– Medicine
- Dexter Voisin– School of Social Service Administration
- Kenneth Warren- English
- Mareike Winchell- Anthropology
- Miwa Yasui– School of Social Service Administration
- Marci Ybarra- School of Social Service Administration

#### Funding and Opportunities

The CSRPC has many resources for masters and doctoral students who work on topics around race and ethnicity. The Center offers a CSRPC Dissertation Fellowship, currently providing one or two ABD students a year with a stipend of \$23,000, some research funding, and an office at the Center. The CSRPC Residential Fellowship provides office space and research funding. Jointly with the Center for The Study of Gender and Sexuality, the Center offers a dissertation fellowship (also with a stipend, research funding, and office space) for a student working on an intersectional topic. Finally, the CSRPC gives a total of at least \$12,000 per year in research grants to students working on relevant topics.

Many teaching opportunities can be found at CSRPC as well. Several teaching internships and lectureships for the civilization sequence 'Colonizations' are available each year, and the Center offers six stand alone courses from among those proposed by advanced graduate students. The Center sponsors a Council on Advanced Studies graduate workshop, the Reproduction of Race and Racial Ideologies Workshop.

For additional information about the Center for the Study of Race, Politics, and Culture, please see csrpc.uchicago.edu

## Comparative Race and Ethnic Studies Courses

### CRES 30001. Topics in African American History. 100 Units.

This course is designed to explore in-depth selected topics in African American history and historiography. The specific focus this term will be "race and twentieth-century social science." Readings and discussion will explore the history of the relation between social-science theory and racial thought and practice from the race science of the late-nineteenth century through Franz Boas's cultural relativism to mid-twentieth century notions of a so-called culture of poverty. Our attention will focus on the real-world, especially public policy, implications of social-scientific thought. In addition to active participation in class discussions each student will write a final paper on a selected topic.

Equivalent Course(s): HIST 40001

## CRES 30110. Trans-Saharan Africa. 100 Units.

Should Mediterranean and sub-Saharan Africa be treated as one or two historical units? What was the global and regional significance of medieval and early modern trans-Saharan caravan trade? How are we to understand the vast empires that sprang up in the West and Central Sudan during this era? How and in what form did Islam and the broader culture that accompanied it spread across this entire region? What was the role of slavery in the economic and cultural development of both North and West-West Central Africa? To what extent did European colonial rule and its aftermath alter or encourage the social and cultural processes initiated by trans-Saharan contacts? We will consider these questions in this course, which will mix lectures on Tuesdays with discussion of readings on Thursdays. Assignments: Two short 3-5-page critical papers on specialized readings and one longer final essay of 10-12 pages.

Instructor(s): R. Austen Terms Offered: Spring

Equivalent Course(s): HIST 30110, CRES 20110, HIST 20110

## CRES 30173. Inequality in American Society. 100 Units.

This course is intended as a complement to SOCI 20103 for first- and second-year students who are majoring in sociology, but is open to other students who have had little exposure to current research in inequality. We cover the basic approaches sociologists have employed to understand the causes and consequences of inequality in the United States, with a focus on class, race, gender, and neighborhood. We begin by briefly discussing the main theoretical perspectives on inequality, which were born of nineteenth century efforts by sociologists to understand modernization in Europe. Then, turning to contemporary American society, we examine whether different forms of inequality are persisting, increasing, or decreasing-and why. Topics include culture, skills, discrimination, preferences, the family, and institutional processes, addressing both the logic behind existing theories and the evidence (or lack thereof) in support of them.

Instructor(s): M. Small Terms Offered: Spring

Equivalent Course(s): CRES 20173, SOCI 30173, SOCI 20173

## CRES 30203. Colloquium: Colonial African History. 100 Units.

In the late nineteenth century, European nations embarked on an ambitious effort to conquer and occupy Africa. This course considers the conditions that enabled the European "scramble for Africa" and the long-lasting consequences of that project. We will use primary sources, secondary texts, fiction, and films to explore the meanings and manifestations of the European occupation for African peoples. Specific themes to be investigated include colonial institutions and systems of rule; social and political effects of colonialism; colonial religious movements; resistance and rebellion; nationalism and independence. We will draw case studies from French West Africa, Kenya, Nigeria, Sierra Leone, and South Africa. Instructor(s): E. Osborn Terms Offered: Spring

Prerequisite(s): Upper-level undergraduates with consent of instructor.

Equivalent Course(s): HIST 40203

## CRES 30308. Political Theologies of Slavery and Freedom in the Atlantic World. 100 Units.

This seminar examines the interdisciplinary form of knowledge known as "political theology" in the context of Atlantic slavery. The course will trace two major developments. First, we will explore how Christian metaphysics facilitated colonialism and slavery, focusing on the emergence of race as a theological (rather than a biological) concept and on the self-fulfiling providentialism that structured fantasies of Euro-Christian world dominance. Second, we will explore how indigenous and African cosmologies and Christianities informed enslaved resistance and abolitionism. Our readings will range from works of political theology (Augustine, Calvin, Hobbes) to early American writings (Las Casas, Ligon, Jefferson) to Black Atlantic anti-slavery texts (Wheatley, Walker, Turner). We'll consider the explorer George Best's rewriting of the biblical Curse of Ham, Francis Bacon's claim that Europe's superior technology evidenced its Chosen status, and the ideology of "hereditary heathenism" that forestalled early efforts to convert slaves to Christianisty. Likewise, we'll consider the role of obeah in the Haitian Revolution, the competing attitudes toward Christian slave revolt found in fiction by Douglass and Stowe, and the continued contestation of what W. E. B. Du Bois called "the new religion of whiteness." Kecondary authors may include Charles Taylor, Talal Asad, Max Weber, Colin Kidd, Rebecca Goetz, Jared Hickman, Katharine Gerbner, Jorge Cañizares-Esguerra, and J. Kameron Carter

Instructor(s): Alex Mazzaferro Terms Offered: Spring

Equivalent Course(s): CHSS 40308, SCTH 40308, KNOW 40308

**CRES 31900.** ¿Cuerpos Desechables? Estéticas de la No-Vida en las Literaturas Hispanoamericanas. 100 Units. In this seminar we will conduct a theoretical exploration of the aesthetic procedures through which human life has been represented as expendable in Spanish-American literature from the Conquest to the twenty-first century, as well as an examination of the historical and philosophical contexts within which such figurations emerged. The course will focus on case studies that correspond to four key moments in the history of the region: conquest and colonization, slavery and the formation of national states in the nineteenth century, the triumph of a capitalist export economy at the turn of the twentieth, and the violent challenges posed by globalization and narcotráfico in the contemporary context. Among the issues and texts we may engage are Fray Bartolomé de las Casas and Francisco de Vitoria's sixteenth-century dispute on the right of conquest and the Brevísima relación de la destrucción de las Indias, Esteban Echevarría's El matadero, Lucio Mansilla's Una excursión a los indios ranqueles, Juan F. Manzano's Autobiografía de un esclavo, Manuel Zeno Gandía's La charca, and Fernando Vallejo's La virgen de los sicarios.

Instructor(s): A. Lugo-Ortiz Terms Offered: Spring

Equivalent Course(s): SPAN 31900, HMRT 31901, LACS 31900

#### CRES 32012. Technologies of Race Making. 100 Units.

This course considers the intersections between technology, science, and race. It explores how technologies have been developed and used to assign racial meaning to people's identities and bodies and how this has impacted economic, political, and social power structures. We will read studies relating to historical and present-day technologies and discuss topics such as racial science, phrenology, biometry, surveillance and policing, artificial intelligence and automation, and data production and reuse. A major theme that runs through the course is the practice of race-making, how biological race is enacted and made relevant in specific technological practices. Which assumptions and expectations about human variation are built into the technologies? What are the effects of its use in practice? How does race making configure into more durable forms, such as standards, databanks, and protocols? This class will be bi-modal, with in class and online options.

Equivalent Course(s): KNOW 32012, SOCI 30325, KNOW 22012

#### CRES 33001. Censorship in East Asia: The Case of Colonial Korea. 100 Units.

This course examines the operation and consequences of censorship in the Japanese Empire, with focus on its effects in colonial Korea. It begins with two basic premises: first, both the Japanese colonial authorities' measures of repression, and the Korean responses to them, can be understood as noticeably more staunch and sophisticated when compared to any other region of the Empire; and second, the censorship practices in Korea offers itself as a case that is in itself an effective point of comparison to better understand other censorship operations in general and the impact of these operations across different regions. With a view to probing an inter- and intra-relationship between censorship practices among a variety of imperial/ colonial regions, this course studies the institutions related to censorship, the human agents involved in censorship-both external and internal-and texts and translations that were produced in and outside of Korea, and were subject to censorship. Overall, the course stresses the importance of establishing a comparative understanding of the functions of censorship, and on the basis of this comparative thinking we will strive to conceptualize the characteristics of Japanese colonial censorship in Korea.

Instructor(s): K. Choi Terms Offered: Autumn

Equivalent Course(s): EALC 43000, EALC 23001, MAAD 16001

## CRES 33101. Love, Conjugality, and Capital: Intimacy in the Modern World. 100 Units.

A look at societies in other parts of the world demonstrates that modernity in the realm of love, intimacy, and family often had a different trajectory from the European one. This course surveys ideas and practices surrounding love, marriage, and capital in the modern world. Using a range of theoretical, historical, and anthropological readings, as well as films, the course explores such topics as the emergence of companionate marriage in Europe and the connections between arranged marriage, dowry, love, and money. Case studies are drawn primarily from Europe, India, and Africa.

Instructor(s): J. Cole, R. Majumdar Terms Offered: Winter

Prerequisite(s): Any 10000-level music course or consent of instructor

Note(s): This course typically is offered in alternate years.

Equivalent Course(s): SALC 33101, ANTH 32220, SALC 43101, CHDV 33212, CRES 23101, ANTH 21525, GNSE 23102, HIST 26903, CHDV 22212, GNSE 31700, HIST 36903

#### CRES 33500. Caribbean Fiction: Self-Understanding and Exoticism. 100 Units.

The Caribbean is often described as enigmatic, uncommon, and supernatural. While foreigners assume that the Caribbean is exotic, this course will explore this assumption from a Caribbean perspective. We will examine the links between Caribbean and Old World imagination, the relationship between exoticism and Caribbean notions of superstition, and the way in which the Caribbean fictional universe derives from a variety of cultural myths.

Instructor(s): D. Desormeaux Terms Offered: Winter

Prerequisite(s): FREN 20500 or 20503

Note(s): Taught in English. A weekly session in French will be held for majors/minors and graduate students in French and Comparative Literature.

Equivalent Course(s): LACS 23500, FREN 33500, CMLT 31801, CMLT 21801, LACS 33500, FREN 23500, CRES 23500

#### CRES 33700. Capitalism, Colonialism, and Nationalism in the Pacific. 100 Units.

This course compares colonial capitalist projects and their dialogic transformations up to present political dilemmas, with special attention to Fiji, New Zealand, and Hawai'i, and a focus on the labor diaspora, the fates of indigenous polities, and tensions in contemporary citizenship. We will compare Wakefield's "scientific colonization" in New Zealand, Gordon's social experiments and indentured labor in Fiji, and the plantations, American annexation, tourism, and the military in Hawai'i. We will compare the colonial experiences of the Maori, Hawaiians, and indigenous Fijians, and also those of the immigrant laborers and their descendants, especially white New Zealanders, the South Asians in Fiji, and the Japanese in Hawai'i. General propositions about nationalism, capitalism "late" and otherwise, global cultural flows, and postcolonial subject positions will be juxtaposed with contemporary Pacific conflicts.

Instructor(s): John Kelly Terms Offered: TBD. May be offered in 2020-21

Note(s): This course qualifies as a Discovering Anthropology selection for Anthropology majors.

Equivalent Course(s): ANTH 23700, ANTH 33700, CRES 23710

#### CRES 34111. The Soviet Empire. 100 Units.

What kind of empire was the Soviet Union? Focusing on the central idea of Eurasia, we will explore how discourses of gender, sexuality and ethnicity operated under the multinational empire. How did communism shape the state's regulation of the bodies of its citizens? How did genres from the realist novel to experimental film challenge a cohesive patriarchal, Russophone vision of Soviet Eurasia? We will examine how writers and filmmakers in the Caucasus and Central Asia answered Soviet Orientalist imaginaries, working through an interdisciplinary archive drawing literature and film from the Soviet colonial 'periphery' in the Caucasus and Central Asia as well as writings about the hybrid conception of Eurasia across linguistics, anthropology, and geography.

Instructor(s): Leah Feldman Terms Offered: Autumn

Equivalent Course(s): CRES 24111, CMLT 34111, CMLT 24111, REES 34110, NEHC 34110, REES 24110, NEHC 24110

## CRES 34201. Cinema in Africa. 100 Units.

This course examines Africa in film as well as films produced in Africa. It places cinema in Sub Saharan Africa in its social, cultural, and aesthetic contexts ranging from neocolonial to postcolonial, Western to Southern Africa, documentary to fiction, art cinema to TV, and includes films that reflect on the impact of global trends in Africa and local responses, as well as changing racial and gender identifications. We will begin with La Noire de... (1966), by the "father" of African cinema, Ousmane Sembene, contrasted w/ a South African film, African Jim (1960) that more closely resembles African American musical film, and anti-colonial and anti-apartheid films from Lionel Rogosin's Come Back Africa (1959) to Sarah Maldoror's Sambizanga, Sembene's Camp de Thiaroye (1984), and Jean Marie Teno's Afrique, Je te Plumerai (1995). The rest of the course will examine 20th and 21st century films such as I am a not a Witch and The wound (both 2017), which show tensions between urban and rural, traditional and modern life, and the implications of these tensions for women and men, Western and Southern Africa, in fiction, documentary and fiction film. (20th/21st)

Instructor(s): Loren Kruger Terms Offered: Spring

Prerequisite(s): One or more of the following: Intro to Film/ International Cinema AND/OR Intro to African Studies or equivalent

Note(s): This course also includes a weekly screening section.

Equivalent Course(s): CMST 34201, CRES 24201, CMST 24201, GNSE 28602, ENGL 27600, CMLT 22900, ENGL 48601, ENGL 47600, GNSE 48602, CMLT 42900

#### CRES 35106. Slavery and Freedom in South America. 100 Units.

This seminar will examine the historiography of African slavery in South America. It will compare the responses of Africans and their descendants to the experiences of enslavement and freedom from the 16th century to the 19th century, addressing the major debates around the Atlantic Slave Trade along with comparative histories of enslavement, freedom, abolition and post-abolition in Spanish America and Brazil. Urban slavery, manumission, slave life and slave resistance, as well as the experiences of free Blacks who lived in slave societies, will also be examined.

Equivalent Course(s): CRES 25106, LACS 35106, HIST 26216, HIST 36216, LACS 25106, HMRT 25115, HMRT 35115

#### CRES 35107. Public history & the Memory of Slavery in Brazil and the U.S. 100 Units.

This course will address the contemporary discussion about public history and the memory of slavery in Brazil and the United States. Like the United States, Brazil declared its independence without abolishing slavery. Unlike citizens of the US, however, Brazilians constructed their notions of citizenship and nationality in a context in which racial identities were only loosely demarcated. In the nineteenth century, Brazil was the country with the largest number of Africans and the largest number of free Afro-descendents in the Americas. It also underwent an unprecedented period of economic growth, based in the coffee economy and slave labor. This growth did not, however, lead to an industrial transformation comparable to that of the US during the same period. This course will examine the paradoxes on the history of slavery and abolition in Brazil and the United States, exploring the ways in which both countries deal with their past in the present. Built on historical scholarship, movies (documentaries and historical motion pictures), digital projects and museum exhibits, this course aims to discuss the public role of historians and of historical research in new approaches about the public memory of slavery in Brazil and the United States.

Equivalent Course(s): LACS 25107, HMRT 35117, LACS 35107, HMRT 25117, HIST 26217, CRES 25107, HIST 36217

#### CRES 35113. From Mestizaje to the Mexican Genome. 100 Units.

As the Kingdom of New Spain became independent Mexico, how did a society structured around status, caste and corporate bodies imagine itself as a republic of equal citizens? This course will explore the categories of class, culture and, particularly, race, with which, for over two hundred years, Mexican politicians and public writers, scientists and intellectuals have sought to make sense of the nation, decipher its ethnic, linguistic and cultural diversity, assuage the profound inequalities that have riddled it, and forge a "national identity".

Equivalent Course(s): LACS 25113, HIST 26124, LACS 35113, CRES 25113, HIST 36124

#### CRES 36500. History of Mexico, 1876 to Present. 100 Units.

From the Porfiriato and the Revolution to the present, this course is a survey of Mexican society and politics, with emphasis on the connections between economic developments, social justice, and political organization. Topics include fin de siècle modernization and the agrarian problem; causes and consequences of the Revolution of 1910; the making of the modern Mexican state; relations with the United States; industrialism and land reform; urbanization and migration; ethnicity, culture, and nationalism; economic crises, neoliberalism, and social inequality; political reforms and electoral democracy; violence and narco-trafficking; the end of PRI rule; and AMLO's new government. Assignments: Class presentations, take-home midterm, and final essays.

Instructor(s): E. Kourí Terms Offered: Autumn Equivalent Course(s): HIST 36500, HIST 26500, CRES 26500, LACS 36500, LACS 26500, LLSO 26500

#### CRES 36660. The Rise of the Global New Right. 100 Units.

This course traces the intellectual genealogies of the rise of a Global New Right in relation to the contexts of late capitalist neoliberalism, the fall of the Soviet Union, as well as the rise of social media. The course will explore the intertwining political and intellectual histories of the Russian Eurasianist movement, Hungarian Jobbik, the American Traditional Workers Party, the French GRECE, Greek Golden Dawn, and others through their published essays, blogs, vlogs and social media. Perhaps most importantly, the course asks: can we use f-word (fascism) to describe this problem? In order to pose this question we will explore the aesthetic concerns of the New Right in relation to postmodern theory, and the affective politics of nationalism. This course thus frames the rise of a global new right interdisciplinary and comparatively as a historical, geopolitical and aesthetic problem.

Instructor(s): Leah Feldman Terms Offered: Autumn

Equivalent Course(s): REES 26660, ENGL 36661, REES 36661, CMLT 26660, CRES 26660, ENGL 26660, CMLT 36660, SIGN 26050

## CRES 37002. Colloquium: Interracial America. 100 Units.

This course will examine the interaction between different racialized and ethnic groups in America (and beyond) from the eighteenth-century to our present moment. Conventional studies rely on a simplistic black-white paradigm of US race relations. This seminar aims to move beyond that dichotomy and searches for broader historical models, which include yellow, brown, red, and ethnic white. For example, how do we interpret recently excavated histories of Afro-Cherokee relations in antebellum America? What are hepcats, pachucos, and yogores? What is a "model minority," and why did Asians inherit the mantle from Jews? What is a "protest minority," and why were Blacks and Jews labeled as such during the civil rights movement? How does race operate differently in an ostensible racial paradise like Hawaii'? How doe we understand race, nation, and decolonization in a global context, as evidenced by radical activism in California in the 1960s and '70s? We will critically interrogate the history of contact that exists between and among these diverse "groups." If conflicted, what factors have prevented meaningful alliances? If confluent, what goals have elicited cooperation?

Equivalent Course(s): AMER 47002, HIST 47002

## CRES 37110. Égalité des races dans la francophonie. 100 Units.

La réflexion anthropologie sur la Caraïbe commence avec les premières explorations européennes au cours des 15e et 16e siècles. Tout comme lors du développement de la colonisation, puis du système esclavagiste inauguré par le Code Noir (1685), la question raciale s'instaure au cœur même de la revendication républicaine des esclaves et de l'indépendance haïtienne. C'est cependant au milieu du 19e siècle, période où triomphe l'anthropologie positive, que parâtront deux ouvrages majeurs sur la question raciale: De l'inégalité des races (1853) de Gobineau et De l'égalité des races humaines (1885) d'Anténor Firmin, l'un des premiers noirs à être membre de la Société d'anthropologie de Paris. Le séminaire analysera ces deux ouvrages en rapport avec l'esprit et l'histoire des idées de l'époque en mettant en évidence, à travers les réflexions théoriques et les œuvres des Durkheim, Firmin, Gobineau, Hibbert, Joseph-Janvier, Madiou, Marcelin, Moreau de Saint-Méry, Renan, Saint-Rémy, Schœlcher, l'émergence croisée et progressive d'un formidable discours sur la race dans l'histoire, la littérature et la philosophie politique, tout au long de la deuxième moitié du 19e siècle. Equivalent Course(s): FREN 27100, CRES 27100, FREN 37100

## CRES 37200. African American History to 1883. 100 Units.

A lecture course discussing selected topics in the African American experience (economic, political, social) from African origins through the Supreme Court decision invalidating Reconstruction Era protections of African American civil rights. Course evaluations via online quizzes and take-home essays.

Instructor(s): T. Holt Terms Offered: Winter

Equivalent Course(s): LLSO 26901, CRES 27200, HIST 37200, HIST 27200

## CRES 37207. The North American West, 1500 - 1900. 100 Units.

Go west, young man, go west!" newspaper editor Horace Greeley allegedly proclaimed. Although he only visited the region himself, his proclamation referred to the host of opportunities thought to be lying in wait among the uncharted territories out yonder. The West has embodied both the American dream and an American nightmare. This co-taught class will examine the changing delineations, demographics, conceptualizations, and significance of the North American West across four centuries and several empires.

Equivalent Course(s): CRES 27207, AMER 27207, GNSE 27207, HIST 27207, HIST 37207, GNSE 37207, AMER 37207

#### CRES 37300. African American History since 1883. 100 Units.

A lecture course discussing selected topics in the African American experience (economic, political, social) from Reconstruction Era protections of African American civil rights through social and political movements in the twentieth and twenty-first centuries seeking their restoration. Course evaluations via online quizzes and take-home essays. Instructor(s): T. Holt Terms Offered: Spring

Equivalent Course(s): HIST 27300, CRES 27300, LLSO 28800, HIST 37300

## CRES 37330. African American History, 1865-2016. 100 Units.

This class will introduce students to the key themes, events, problems and advances within African American history, after the end of slavery. Readings will include Reconstruction-era documents, Ida B. Wells, Ned Cobb, W. E. B. Du Bois, Howard Thurman, Septima Clark, Philippe Wamba, and Audre Lorde among others. Assignments will include two papers and a series of short response pieces.

Instructor(s): A. Green Terms Offered: Winter

Equivalent Course(s): CRES 27330, AMER 27310, HIST 27310, HIST 37310, AMER 37310

## CRES 37401. Literaturas del Caribe Hispanico en el siglo XX. 100 Units.

En este curso se estudiarán algunos ejemplos salientes de las literaturas producidas en el Caribe hispánico insular (Cuba, Puerto Rico y Santo Domingo) durante el siglo XX y a principios del XXI. Entre los asuntos a discutir tendrán un lugar principal los modos en que esta producción se ha constituído como respuesta y elaboración estética de las historias de esclavitud, violencia racial y colonialismo, de militarización y desplazamientos territoriales migratorios, que han marcado a la región en su carácter de frontera imperial desde el siglo XVI. En el curso también se abordará la condición simbólica del Caribe como espacio de utopías y catástrofes, escenario previlegiado tanto de las aspiraciones revolucionarias propias de la modernidad (e.g. la Revolución Haitiana del 1791 y la Revolución Cubana del 1959) como de los terrores de la destrucción ecológica (con su experiencia cruel de huracanes y terremotos).

Instructor(s): A. Lugo-Ortiz Terms Offered: Autumn

Prerequisite(s): At least one of the following courses: SPAN 21500, 21703, 21803, 21903, or 22003. Note(s): Taught in Spanish.

Equivalent Course(s): LACS 27401, LACS 37401, SPAN 27401, CRES 27401, SPAN 37401

## CRES 37403. African American Lives and Times. 100 Units.

This colloquium will examine selected topics and issues in African American history during a dynamic and critical decade, 1893 and 1903, that witnessed the redefinition of American national and sectional identities, social and labor relations, and race and gender relations. A principal premise of the course is that African American life and work was at the nexus of the birth of modern America, as reflected in labor and consumption, in transnational relations (especially Africa), in cultural expression (especially music and literature), and in the resistance or contestation to many of these developments. The course will focus on the Chicago World's Fair and the publication of Du Bois's Souls of Black Folk as seminal moments in the era. Our discussions will be framed by diverse primary materials, including visual and aural sources, juxtaposed with interpretations of the era by various historians. A principal goal of the course is that students gain a greater appreciation for interpreting historical processes through in-depth examination of the complex and multiple currents of an defined era-a slice of time-as well as skills in interpreting diverse primary sources.

Instructor(s): T. Holt Terms Offered: Winter

## CRES 37709. Soul and the Black Seventies. 100 Units.

This course considers in what ways soul as cultural genre and style shaped, and was shaped by, the political, social, structural, cultural, and ethical shifts and conditions associated with the 1970s. It will focus on popular music as both symbolic field and system of production, while also taking up other forms of expression-literary, intellectual, institutional, activist-in order to propose an alternate, and compelling, archive for this era. The course intends to deepen understanding of the feel and meaning of soul by relating it to consequential legacies of the 1970s: urban identity and crisis, emerging limitations of racial reformism, the deepening class stratification of Black life, and the radical disruption of social norms through feminism, in particular Black feminism.

Instructor(s): A. Green Terms Offered: Spring

Prerequisite(s): Graduate students by consent of instructor.

Equivalent Course(s): CRES 27709, GNSE 27709, MUSI 37709, MUSI 27709, HIST 27709, GNSE 37709, HIST 37709

## CRES 37900. Asian Wars of the Twentieth Century. 100 Units.

This course examines the political, economic, social, cultural, racial, and military aspects of the major Asian wars of the twentieth century: the Pacific War, the Korean War, and the Vietnam War. At the beginning of the course we pay particular attention to just war doctrines and then use two to three books for each war (along with several films) to examine alternative approaches to understanding the origins of these wars, their conduct, and their consequences. Instructor(s): B. Cumings Terms Offered: Spring

Equivalent Course(s): CRES 27900, EALC 37907, EALC 27907, HIST 37900, HIST 27900

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#### CRES 38000. United States Latinos: Origins and Histories. 100 Units.

An examination of the diverse social, economic, political, and cultural histories of those who are now commonly identified as Latinos in the United States. Particular emphasis will be placed on the formative historical experiences of Mexican Americans and mainland Puerto Ricans, although some consideration will also be given to the histories of other Latino groups, i.e., Cubans, Central Americans, and Dominicans. Topics include cultural and geographic origins and ties; imperialism and colonization; the economics of migration and employment; legal status; work, women, and the family; racism and other forms of discrimination; the politics of national identity; language and popular culture; and the place of Latinos in US society. Equivalent Course(s): AMER 28001,CRES 28000,GNSE 28202,HIST 38000,LACS 28000,LACS

Instructor(s): R. Gutiérrez Terms Offered: Autumn

Equivalent Course(s): LACS 38000, GNSE 38202, LACS 28000, HIST 28000, AMER 38001, CRES 28000, GNSE 28202, HIST 38000, AMER 28001

#### CRES 38703. Baseball and American Culture, 1840 to Present. 100 Units.

This course will examine the rise and fall of baseball as America's national pastime. We will trace the relationship between baseball and American society from the development of the game in the mid-nineteenth century to its enormous popularity in the first half of the twentieth century to its more recent problems and declining status in our culture. The focus will be on baseball as a professional sport, with more attention devoted to the early history of the game rather than to the recent era. Emphasis will be on using baseball as a historical lens through which we will analyze the development of American society and culture rather than on the celebration of individuals or teams. Crucial elements of racialization, ethnicity, class, gender, nationalism, and masculinity will be in play as we consider the Negro Leagues, women's leagues, the Latinization and globalization of the game, and more.

Instructor(s): M. Briones Terms Offered: Winter

Equivalent Course(s): CRES 28703, HIST 28703, HIST 38703

#### CRES 38906. Nineteenth-Century American Mass Entertainment. 100 Units.

Popular culture filters, reflects, and occasionally refracts many of the central values, prejudices, and preoccupations of a given society. From the Industrial Revolution to the advent of feature filtms in the early twentieth century, American audiences sought both entertainment and reassurance from performers, daredevils, amusement parks, lecturers, magicians, panoramas, athletes, and photographers. Amidst the Civil War, they paid for portraits that purportedly revealed the ghosts of lost loved ones; in an age of imperialism, they forked over hard-earned cash to relive the glories of western settlement, adventure, and conquest in Buffalo Bill's Wild West. Mass entertainment not only echoed the central events of the age it helped shape them: from phrenology as the channel for antebellum convictions about outward appearance (and racial identity), to the race rists following Jack Johnson's boxing victory over Jim Jeffries. Many of these entertainment forms became economic juggernauts in their own right, and in the process of acceptable beliefs and behaviors. This lecture course will examine the history of modern American entertainment over the course of the long nineteenth century. Requirements include careful reading, active and thoughtful participation, and written assignments. Equivalent Course(s): GNSE 28906, HIST 28906, GNSE 38906, HIST 28906

#### CRES 38990. Muslims in the United State and Western Europe. 100 Units.

Muslim migration to the United States and Western Europe proliferated in the last quarter of the 20th Century, and Islam has been a visible (and controversial) presence in these societies ever since. Though internally varied by race, ethnicity, national origins, sect and class positionality, Muslim communities have faced homogenizing narratives rooted in orientalist frameworks. As Islam continues to be a site of conflict in geopolitical struggles, these frameworks have reproduced themselves into the twenty-first century. This course will use an intersectional and critical lens to examine the issues facing Muslims in the United States and Western Europe on both macro and micro levels. One third of the course will cover the interactions between Muslim communities and their "host societies" vis-à-vis the state, mass media, and public opinion. Another third of the course will delve into issues of socioeconomic mobility and cultural assimilation, Finally, the last third will show how these macro concepts influence the everyday lived experiences of Muslims in these contexts. This is a seminar-style, reading-heavy course. Students should be familiar with and capable of deploying the sociological concepts of race, class, gender and intersectionality.

Instructor(s): E. Abdelhadi Terms Offered: Autumn Spring

Note(s): Grad: B, C

Equivalent Course(s): CHDV 38990, ISLM 38990, GNSE 38990, CHDV 28990, SOCI 30324

#### CRES 39000. Latin American Religions, New and Old. 100 Units.

This course will consider select pre-twentieth-century issues, such as the transformations of Christianity in colonial society and the Catholic Church as a state institution. It will emphasize twentieth-century developments: religious rebellions; conversion to evangelical Protestant churches; Afro-diasporan religions; reformist and revolutionary Catholicism; new and New Age religions.

Instructor(s): D. Borges Terms Offered: Autumn

Equivalent Course(s): HCHR 39200, CRES 29000, HIST 29000, RLST 21401, MAPS 39200, LACS 29000, HIST 39000, LACS 39000

#### CRES 39117. Theater and Performance in Latin America. 100 Units.

What is performance? How has it been used in Latin America and the Caribbean? This course is an introduction to theatre and performance in Latin America and the Caribbean that will examine the intersection of performance and social life. While we will place particular emphasis on performance art, we will examine some theatrical works. We ask: how have embodied practice, theatre and visual art been used to negotiate ideologies of race, gender and sexuality? What is the role of performance in relation to systems of power? How has it negotiated dictatorship, military rule, and social memory? Ultimately, the aim of this course is to give students an overview of Latin American performance including blackface performance, indigenous performance, as well as performance and activism.

Instructor(s): D. Roper Terms Offered: Autumn

Prerequisite(s): Undergraduates must be in their third or fourth year

Note(s): Taught in English.

Equivalent Course(s): SPAN 39117, SPAN 29117, TAPS 38479, LACS 29117, TAPS 28479, CRES 29117, GNSE 39117, LACS 39117, GNSE 29117

#### CRES 39421. Politics of Commemoration. 100 Units.

Most of the time we pass in front of the statues, commemorative museums, monuments, and flags that inhabit our cities without noticing them. In recent years, however, they (along with pre-college history curricula) have become controversial across the globe. This course addresses those controversies primarily in Europe and the United States, but also in Latin America, West Africa, and South Africa. Through a series of case studies we will analyze the conditions of the creation of statues, monuments, and museums. Who conceptualized them and lobbied for their creation? Who paid for them? For whom were they originally intended? What message did they convey? What happened over time? How did their message change? Did they provoke controversy at the moment of their planning or inauguration or later and, if so, from whom? Equal attention will be paid to scholars' efforts to address the question of what these commemorative works actually do. If they really become unnoticeable, then why does the threat of their removal so often spark such intense controversy? Assignments: Active participation in class, one secondary text analysis, one analysis of a controversy, and one proposal for a monument, museum, or school curriculum.

Instructor(s): L. Auslander Terms Offered: Spring

Equivalent Course(s): GLST 29526, HIST 29421, CRES 29421, ARCH 29421, JWSC 29421, LLSO 29421, ENST 29421, HIST 39421

## CRES 39519. Histories of Racial Capitalism. 100 Units.

This course takes as its starting point the insistence that the movement, settlement, and hierarchical arrangements of people of African descent is inseparable from regimes of capital accumulation. It builds on the concept of "racial capitalism," which rejects treatments of race as external to a purely economic project and counters the idea that racism is an externality, cultural overflow, or aberration from the so-called real workings of capitalism. With a focus on the African diaspora, this course will cover topics such as racial slavery, labor in Jamaica, banking in the Caribbean, black capitalism in Miami, the under development of Africa, mass incarceration, and the contemporary demand for racial reparations. Equivalent Course(s): HIST 29519, CRES 29519, HIST 39519

#### CRES 40110. Color, Ethnicity, Cultural Context, and Human Vulnerability. 100 Units.

The specific level of vulnerability may vary across the life course; nevertheless, all humans are vulnerable and, thus, unavoidably possess both risks and protective factors. The level and character of human vulnerability matters and has implications for physical health, psychological well being, the character of culture, and mental health status. The balance between the two (i.e., risks and protective factors) can be influenced by ethnic group membership and identifiability (e.g., skin color). The cultural contexts where growth and development take place play a significant role in life course human development. As a globally admired cultural context with a particular national identity, one of America's foundational tenets is that citizenship promises the privilege of freedom, allows access to social benefits, and holds sacred the defense of rights. Our centuries-old cultural context and national identity as a liberty-guaranteeing democracy also presents challenges. The implied identity frequently makes it difficult to acknowledge that the depth of experience and its determinative nature may be but skin deep. In America, there continues to be an uneasiness and palpable personal discomfort whenever discussions concerning ethnic diversity, race, color, and the Constitutional promise and actual practice of equal opportunity occur. Other nations are populated with vulnerable humans, as well, and experience parallel dissonance concerning the social tolerance of human diversity. Given the shared status of human vulnerability, the course unpacks and analyzes how differences in ethnicity, skin color, and other indicators of group membership impact vulnerability and opportunity for diverse groups. Specifically, the course analyzes the balance between risk level and protective factor presence and examines the consequent physical health status, psychological well-being, and mental health outcomes for its dissimilar citizens. The course especially emphasizes the American cultural context but, in addition, highlights the unique experiences of ethnically varied individuals developing in multiple cultural contexts around the globe.

Instructor(s): M. Spencer Terms Offered: Autumn

Prerequisite(s): Undergraduates require permission from instructor.

Equivalent Course(s): CHDV 40110

#### CRES 40270. Development in Adolescents. 100 Units.

Adolescence is a period of rapid growth and development irrespective of circumstances, contextual conditions and supports; thus, it represents both significant challenges and unique opportunities. The conceptual orientation taken acknowledges the noted difficulties but also speculates about the predictors of resiliency and the sources of positive youth development achieved. The course delineates the developmental period's complexity made worse by the many contextual and cultural forces due to socially structured conditions; that fact interact with youths' unavoidable and unique meaning-making processes. As a function of some youths' privileging circumstances versus the low resource and chronic conditions of others, both coping and identity formation processes are emphasized as highly consequential. Thus, stage specific developmental processes are explored for understanding gap findings for a society's diverse youth given citizenship requirements expected of all. In sum, the course presents the experiences of diverse youth from a variety of theoretical perspectives. The strategy improves our understanding about the "what" of human development as well as dynamic insights about the "how" and "why." Ultimately, the conceptual orientation described is critical for 1) designing better social policy, 2) improving the training and support of socializing agents (e.g., teachers), and 3) enhancing human developmental outcomes (e.g., resilient patterns).

Instructor(s): M. Beale Spencer Terms Offered: Spring Prerequisite(s): Graduate students only. Note(s): CHDV Distribution: 2\* Equivalent Course(s): CHDV 40207

#### CRES 40304. Between Nature and Artifice: The Formation of Scientific Knowledge. 100 Units.

This course critically examines concepts of "nature" and "artifice" in the formation of scientific knowledge, from the Babylonians to the Romantics, and the ways that this history has been written and problematized by both canonical and less canonical works in the history of science from the twentieth century to the present. Our course is guided by three overarching questions, approached with historical texts and historiography, that correspond to three modules of investigation: 1) Nature, 2) Artifice, and 3) Liminal: Neither Natural nor Artificial.

Instructor(s): Margaret Carlyle, Eduardo Escobar, Jennifer P. Daly Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. Ph.D. students must register with the KNOW 40304 course number in order for this course to meet the requirement.

Equivalent Course(s): CHSS 40304, HIST 34920, HIPS 40304, GNSE 40304, KNOW 40304

#### CRES 40311. The Invention of Hunger. 100 Units.

Hunger is often thought of as an unchanging biological fact, but what it means to be hungry has changed profoundly over the course of the nineteenth and twentieth centuries. From the pleasure of sweets to the trauma of famine, hunger has influenced some of the most important economic, political, and cultural developments of the modern age. Drawing from a variety of scholarly disciplines, as well as primary readings including novels, scientific texts, and journalism, we will explore how experiences and understandings of hunger were intertwined with race, class, and gender, and played a pivotal role in the development of the slave trade, colonialism, and humanitarian ethics. We will situate famines, hunger strikes, eating disorders, and other ways of thinking about food in their historical and cultural contexts. We will end the course by examining how this history has influenced how we understand the culture and economics of food in our own society. For each class period, students will write a 1-2 page reflection on one or several of the week's readings that they will circulate to the entire class at least 24 hours before seminar. There will be a 15-20 page final paper on the theme of hunger, broadly defined. This paper will incorporate outside secondary works related to students' specific research interests. Instructor(s): Yan Slobodkin Terms Offered: Spring

Equivalent Course(s): KNOW 40311

## CRES 42610. Theologies from the Underside of History. 100 Units.

This course compares and contrasts various systems and methods in contemporary Third World theologies, that is, in Africa, Asia, and Latin America. As a backdrop for this critical comparative engagement, we will use the recent theological dialogues taking place in the Ecumenical Association of Third World Theologians (EATWOT). As we engage these systems of thought, we want to examine the logic of their theologies and the sources used to construct theology. Equivalent Course(s): THEO 42610

#### CRES 43400. Colloquium: France and Its Empire, 1830-2020. 100 Units.

Opening with the French invasion of Algeria and closing with the contemporary debates around race, gender, secularism, and Islam, this colloquium will provide an overview of France's engagement in the world and its consequences, an indepth knowledge of some key moments or events, and an opportunity to engage the French, US, and British historiography on these topics. Special attention will be given to the engagement of French feminists in the imperial project and the development of feminist movements in West and North Africa, the role of indigenous intermediaries, and the mobilization of culture in the interests of both imperial rule, anti-colonial nationalism, and the postcolonial order. Instructor(s): L. Auslander Terms Offered: Spring

Prerequisite(s): Upper-level undergraduates with consent of instructor

Equivalent Course(s): HIST 43400, GNSE 43400

#### CRES 43505. Colloquium: Paris and Berlin in the Long Twentieth Century. 100 Units.

This colloquium will analyze the convergences and divergences, focusing on immigration, urban planning, and culture of two of Europe's great capitals from the turn of the twentieth century to its end. Starting with the massive intra- and international immigration into both cities in the 1880s, we will discuss how strangers were received and made their lives. Where did they live, work, eat, shop, play, and worship? How did they participate in the political lives of both cities? How did the experiences of postcolonial subjects and guest-workers vary? This population growth along with economic, technological, environmental, and political change challenged each metropolis's infrastructure. In the interwar period Berlin responded by expansion while Paris refused that strategy. Berlin's demolition during the Second World War was followed by forty years of division while Paris emerged from the war largely unscathed. Europeanification, followed by unification in the one case and massive postcolonial immigration in other, posed very different, but equally dramatic, challenges to both. Finally, both cities have been the centers of vibrant cultural production, including music, theater, the fine arts, film, and literature, with artists often moving between the two, carrying ideas and innovations. Films, novels, maps, memoirs, architectural drawings, photographs, city-planning treatises, tourist guides, and reports from world fairs will be the basis of class discussions, seconded by the r

Equivalent Course(s): HIST 43505, GNSE 43505

## CRES 44502. Black Theology: Liberation or Reconciliation. 100 Units.

Equivalent Course(s): THEO 44502

#### CRES 45510. Black Political Thought: The Problem of Freedom. 100 Units.

In the history of political thought slavery constitutes the paradigmatic metaphor of unfreedom against which normative visions of freedom are articulated. But as historians and theorists have noted, this juxtaposition of slavery and freedom often appears with little regard to the historical experience of the most expansive modern system of slavery-the transatlantic slave trade and chattel slavery in the New World. This course examines the "problem of freedom" by centering this experience. Drawing on texts that range from the slave narrative to the novel, it examines how visions of freedom were articulated through the experience of new world slavery, considers the ambivalence and limits of emancipation and explores why and how the figure of the slave recurs in contemporary political culture. These questions and aims are informed by two broader impulses. First, contemporary political theory has much to gain from a more explicit and nuanced engagement with the experience and legacy of slavery. Second, the transatlantic slave trade and new world slavery are constitutive of black modernity and black political thought. Returning to and rethinking this site is thus one way of better grasping its contours. Instructor(s): A. Getachew Terms Offered: Spring

Equivalent Course(s): PLSC 45501

## CRES 45700. Race and Capitalism. 100 Units.

This course will address issues of race and capitalism. Instructor(s): Dawson, Michael Katzenstein, Emily Terms Offered: Winter Equivalent Course(s): PLSC 45710

#### CRES 45732. Prejudice and Discrimination: Individual Cost and Response. 100 Units.

This foundational diversity class explores the origins and practices of racial/ethnic prejudice, stereotypes, and discrimination, and how demographic factors such as class, gender, sexuality, and nationality intersect to solidify and perpetuate inequality. We will explore the resulting psychological, economic, and sociopolitical tolls on individuals, and also examine various individual responses that can mitigate the negative impacts of or engage in resistance towards such discrimination (such as racial/ethnic identity development, deliberate retention of heritage culture, and social/political mobilization). Moreover, we will examine how these individual responses together with organized and collective efforts can bring about social changes. This class consciously expands a dominant binary discourse of race to develop a more inclusive and complex paradigm that accurately reflects the diversity of contemporary America.

Equivalent Course(s): SSAD 45732, CRES 25732, SSAD 25732

## CRES 46751. Of Whiteness. 100 Units.

In his essay "The Souls of White Folk," WEB Du Bois asks, "But what on earth is whiteness that one should so desire it?" This course will explore a multiethnic cultural and theoretical archive that grapples with the patterned and partial irrationality of this excessive racial desire. How does whiteness structure the racial/social field? What mechanisms regulateor have regulated-populations' access to and desire for it? (18th/19th) Instructor(s): Christopher Taylor Terms Offered: Spring

Equivalent Course(s): ENGL 46751

#### CRES 47101. Re-imaging US Civil War & Reconstruction. 100 Units.

Equivalent Course(s): AMER 47101, HIST 47101

## CRES 49001. Colloquium: Slavery & Emancipations-Atlantic Histories. 100 Units.

This course explores political, economic, and cultural linkages among Europe, Africa, and the Americas, as they were fashioned and reconstructed through slavery and the slave trade, slave emancipations and post-emancipation labor regimes, post-abolition colonial projects and post-emancipation racial ideologies and anticolonial liberation movements. Toward the end of the twentieth century, academic historiography revived what in shorthand fashion is termed an "Atlantic world" as a frame of historical analysis. The premises of varying Atlantic frameworks will receive attention in order to explore ways to think historically about material, ideological, and symbolic connections fashioned by slavery and the slave trade and the refashioning of these relationships in a world whose inter-connections were increasingly not premised on the illegitimacy of laws and many practices of enslavement.

Instructor(s): J. Saville Terms Offered: Winter

Prerequisite(s): Graduate Students Only

Equivalent Course(s): HIST 69001, LACS 69001

#### CRES 49100. Colloquium: Haitian Revolution and Human Rights, 1790-2004. 100 Units.

This course explores the Haitian revolution as critical to the examination of slave emancipation, colonialism, comparative revolutions, and postcolonial governance and sovereignty. It especially aims to explore interpretive debates that explicitly (or implicitly) link the problems of slave emancipation to the contradictions of modern freedom. Course readings draw on historical, anthropological, and political studies, selected published documents, and historical fiction to think critically about ways of extending how this history and its implications have been explored.

Equivalent Course(s): LACS 49100, HIST 49100, HMRT 49100

## CRES 49200. Colloquium: Approaches to Atlantic Slavery Studies. 100 Units.

We are witnessing an outpouring of scholarship on Atlantic slavery even as some historians are increasingly critical of the archival method. This course uses select theoretical readings and recent monographs and articles to examine this conceptual and methodological debate. Topics to be examined include histories of women, gender, and sexuality; dispossession and resistance; urban and migration history; and interdisciplinary and speculative techniques.

Instructor(s): R. Johnson Terms Offered: Winter

Prerequisite(s): Open to upper-level undergraduates with consent of instructor

Equivalent Course(s): GNSE 49201, LACS 49200, HIST 49200

#### CRES 50755. Race/Capital/Extraction. 100 Units.

In the concluding chapters of Capital, Vol. 1, Karl Marx describes the origins of capitalism as an enterprise "written in the annals of mankind in letters of blood and fire." This process that Marx christened as "so-called primitive accumulation" rests fundamentally on the extraction of raw materials through colonial regimes of enclosure and the brutal exploitation of racialized labor. Nonetheless, the relationship between race and capital is not sufficiently elaborated in Marx's oeuvre. In turn, this course will reconsider Marxist concepts and categories through a critical evaluation of the analytical domains of "race," "capital," and "extraction." Moreover, students will consider the extent to which these domains productively modify each other: Does capitalism as an economic system depend on race as its ideological substrate? Can race be understood as an extractive project founded the violent enslavement and mercantile transit of racialized laboring subjects? How are the production of race and the accumulation of w.E.B. Du Bois, C.L.R. James, Claudia Jones, Walter Rodney, Sidney Mintz, Norman Girvan, Lloyd Best and Kari Polanyi Levitt.

Instructor(s): Ryan Jobson Terms Offered: Winter. Winter 2020 Equivalent Course(s): CHSS 50755, ANTH 50755

#### CRES 51515. An Island is a World: Readings in Caribbean Ethnography. 100 Units.

This advanced graduate seminar examines the construction of the Caribbean as an object of anthropological study. The aims of this seminar are twofold. Following Michel-Rolph Trouillot, this seminar will attend to "Caribbean as viewed by anthropologists, but also about anthropology as viewed from the Caribbean." In turn, students will consider whether the Caribbean is an exceptional or exemplary geography in the anthropological imagination. Accordingly, students will consult the writings of Trouillot, MG Smith, Constance Sutton, Lynn Bolles, and Deborah Thomas, among others. Additionally, students will be introduced to the Raymond T. Smith Papers in Special Collections at the Regenstein Library. Instructor(s): Ryan Jobson Terms Offered: Spring, Spring 2021

Equivalent Course(s): ANTH 51515, LACS 51515

## CRES 52802. Politics of Intimacy. 100 Units.

This course draws from interdisciplinary debates to position intimate forms in relation to broader textures of emotion and ethics, desire and race, labor and liberation. Heuristically, intimacy allows us to attend to practices that spill beyond more dyadic understandings of ostensibly private domains of sexuality or kinship as opposed to public forms of economic production and labor. Course readings, taken primarily but not exclusively from the Latin American region, will consider specific instances when the gathering together of bodies in close quarters (e.g. in arrangements of domestic servitude, colonial-era monasteries and convents, indigenous slave-holding in the Americas, settler households and adoptive parentage configurations) became problematic and subject to governmental intervention. We will further ask how, in moments of colonial reform, post-colonial change, and de-colonial mobilization, intimate forms became newly offensive but also grounded (and continue to ground) emergent claims to life and rights. The course ends by meditating on the entailments of intimacy for ethnography, namely, as a model of research rooted in attachments and vulnerabilities rather than spectatorship and distance.

Instructor(s): Mareike Winchell Terms Offered: Winter. Winter 2021 Equivalent Course(s): ANTH 52802, LACS 52802

#### CRES 54104. On Man: Sociogenesis and Subjectivation. 100 Units.

In this course, students will read and engage with how "Man" has been conceptualized and critiqued in certain areas of philosophy and critical theory. The class begins with Man's emergence in colonial contexts, with readings from Frantz Fanon, Homi Bhabha, and Sylvia Wynter. Students will also contend with Man's intersubjectivity with the "Subject" with readings from Michel Foucault, Judith Butler, Jose Munoz, and Hortense Spillers. Memoirs, novels, and auto-documentary films supplement this courses' exploration of the genealogies of "Man." (20th/21st) Instructor(s): C. Riley Snorton Terms Offered: Winter

Equivalent Course(s): ENGL 54104, GNSE 54104

#### CRES 56675. Violence, Trauma, Repair. 100 Units.

This course offers an interdisciplinary encounter with three concepts of abiding interest to scholars in the humanities and humanistic social sciences; violence, trauma, and repair. We begin with theoretical considerations about violence and its role in the founding of new political orders. The second part tackles the question of trauma, a concept that has achieved a remarkable prominence across many disciplines. But this ascendance also brought with it a number of critiques, among them that the concept is often deployed in apolitical and romanticized terms. We take on these critiques by bringing into conversation works from varying contexts: the Rwandan genocide, the Transatlantic Slave Trade, the Holocaust and Apartheid South Africa. The final part focuses on the consequences of violent acts and notions of repair formulated in the language of trauma, suffering and human rights. We ask: What is the operating rationale in this line of thinking about the contemporary world? How has it emerged, and through what kinds of institutions, interventions and techniques does it operate and extend its power across the globe?

Instructor(s): Sonali Thakkar & Natacha Nsabimana Terms Offered: Spring

Prerequisite(s): Consent required: Email Professor Nsabimana a paragraph long description about what you bring and what you hope to get out of this seminar.

Equivalent Course(s): ENGL 56675, HMRT 50005, ANTH 52510, CDIN 56675

## CRES 61102. The L.A. Rebellion and the Politics of Black Cinema. 100 Units.

Equivalent Course(s): CMST 61102

## CRES 62604. Visual Culture in American Life, 1800-1915. 100 Units.

How has American society's insatiable thirst for visual media influenced the way US citizens have viewed one another and portrayed themselves to others? In this course we will explore the significance of what Raymond Williams called the "cultural revolution" for the lives of ordinary men and women in the United States. This history encompasses subjects that have retained their relevance in contemporary life, including racial and ethnic stereotypes, armchair travel, virtual versus lived reality, authenticity and artifice, mass entertainment, city life, celebrity, and gender. Readings will include a series of theoretical works in combination with articles and monographs, to provide a broader underpinning for the problems of perception and historical analysis at play in this realm of scholarly thought and practice.

Instructor(s): A. Lippert Terms Offered: Spring

Equivalent Course(s): AMER 62604, GNSE 62604, HIST 62604

#### CRES 62805. Colloquium: American Conservatism, 1945-Present. 100 Units.

This course explores the burgeoning historiography of American conservatism, tracing the movement from its grassroots origins after World War II to its institutionalization and militarization in the Reagan era to the rise of evangelicalism and Tea Party politics. We will focus on the role of women in the movement, the ideological alliances in its founding, and the roles of particular conservative groups in the movement's history. This course will move both chronologically and thematically to explore fundamental questions about activism and radicalization, grassroots and top-down ideologies, and the impact of conservative thought and institutions upon American society and state in the late twentieth century. Equivalent Course(s): HIST 62805, AMER 62805, GNSE 62805

#### CRES 69002. Colloquium: Slavery and Emancipations-Atlantic Histories. 100 Units.

This course explores political, economic, and cultural aspects of slave emancipations, emphasizing major transformations in Caribbean-Atlantic and North American slave systems since the first abolitionist measures of the mid-eighteenth through the early twentieth centuries. The interpretive possibilities opened by varying comparative frameworks will be considered in order to explore ways to think historically about material, ideological, and symbolic connections fashioned by slavery and the slave trade and the refashioning of these relationships in a world whose interconnections were increasingly premised on the illegitimacy of laws and many of the practices of enslavement.

Equivalent Course(s): HIST 69002, LACS 69002



# Committee on Southern Asian Studies/ South Asia Language & Area Center

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- William Mazzarella, Anthropology
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- Karma Ngodup, South Asian Languages & Civilizations
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- James H. Nye, Library
- Tahera Qutbuddin, Near Eastern Languages & Civilizations
- Trevor Price, Ecology and Evolution
- Tahera Qutbuddin, Near East Languages & Civilizations
- · Frank Reynolds, Divinity: History of Religions
- Laura Ring, Library
- John Schneider, Medicine

- Clinton Seely, South Asian Languages & Civilizations
- Richard A. Shweder, Comparative Human Development
- Sunit Singh, Divinity School
- Paul Staniland, Political Science
- Ulrike Stark, South Asian Language & Civilizations
- Kaushik Sundar Rajan, Anthropology
- Richard P. Taub, Comparative Human Development
- Gary Tubb, South Asian Languages & Civilizations
- Christian K. Wedemeyer, Divinity: History of Religions
- Tyler Williams, South Asian Languages & Civilizations
- Austin Wright, Harris School of Public Policy
- Faridah Zaman, History
- Norman Zide, Linguistics

The University of Chicago is one of the leading centers for the study of Southern Asia. Countries in which we have scholarly expertise include in South Asia, Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka, and Tibet (as an autonomous region); and in Southeast Asia, Burma (Myanmar), Cambodia (Kampuchea), East Timor, Indonesia, Laos, Malaysia, Papua New Guinea, the Philippines, Singapore, Thailand, and Vietnam.

The Committee on Southern Asian Studies is an interdepartmental and interdivisional committee that coordinates research and teaching dealing with the countries of South and Southeast Asia. The committee formerly worked closely with the South Asia Language and Area Center, which was inaugurated in 1959 with grants from the Ford Foundation and the United States Department of Education under the National Defense Education Act, Title VI.

The committee works to enhance opportunities available to scholars both in the United States and in South and Southern Asia and to foster intellectual and scholarly communication and inter-disciplinary collaboration among the students and faculty at the University of Chicago and the wider Chicago and Southern Asian Studies communities.

The committee does not offer degrees, but cooperates with the several departments, committees, and schools within which specialized work on South or Southeast Asia may be combined with a degree program. These include the College; the Departments of Anthropology, Art History, Comparative Human Development, Comparative Literature, Economics, English, History, Linguistics, Music, Political Science, Psychology, Sociology, and South Asian Languages & Civilizations; the Committees on History of Culture, International Relations, and Social Thought; in the Divinity School, the fields of History of Religions, Church History, Philosophy of Religions; and in the Law School, International and Comparative Legal Studies.

Advanced degree programs with specialization in Bengali, Hindi, Malayalam, Marathi, Pali, Sanskrit, Tamil, Telugu, Tibetan, and Urdu languages, literatures, and civilizations are available in the Department of South Asian Languages & Civilizations. Persian and Arabic are available through the Department of Near Eastern Languages & Civilizations. A limited number of fellowships, scholarships, and grants in aid are awarded by the committee in support of training or research dealing with South or Southeast Asia. Students in all disciplines interested in training in South Asian languages may also apply for Foreign Language and Area Studies Fellowships under Section 602 of Title VI of the Higher Education Act of 1965 as amended. For further information, please write to the Associate Director

The University of Chicago Library has a very strong and well balanced collection of South Asian books, government documents, journals, and maps. It includes extensive holdings in all South Asian languages, as well as publications on the subcontinent from major publishing centers around the world. The library has been a comprehensive participant since 1962 in the Library of Congress Foreign Acquisitions Program for South Asia. The library s membership in the nearby Center for Research Libraries, and in its South Asia Microfilm Project (SAMP), provides ready access to additional valuable research materials. The library's South Asia Collection staff coordinates acquisition and processing, and provides specialized reference service. A smaller collection of Southeast Asian materials is limited to Western language works on the area from Burma to the Philippines.



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## Stevanovich Institute on the Formation of Knowledge

Department Website: https://sifk.uchicago.edu/ Executive Director

Macol Stewart Cerda

The Stevanovich Institute on the Formation of Knowledge (SIFK) opened in the fall of 2015 at the University of Chicago as a focal point for scholars to ask, What do we know?

In the current era, this question is more confusing than ever, and answers are hard to come by. We face unreliable news, non-replicable scientific experiments, masses of data, groupthink, cultural relativism, confusion about values, entrenched beliefs, and more.

In such an environment, we seek new methods for asking about the world. At the Stevanovich Institute on the Formation of Knowledge, we aim to understand how factors like history, politics, culture and religion can shape knowledge —year in and year out, over decades, over centuries. We believe that to understand a phenomenon, one must approach from a number of different fields, and with sensitivity to context. As no area of knowledge arises in a vacuum, we underplay the division of knowledge into departments within the university, offering KNOW classes that bring together perspectives from a number of fields.

Join us for a KNOW class as we try to find new answers to some of the largest and most perennial questions, all bearing on what it means to be human in the 21st century. We offer undergraduates and graduate students team-taught classes that challenge conventional wisdom across the board.

KNOW courses are cross-listed with a variety of departments, so students can enroll in them as a major course with their department's course number or as an elective with the KNOW course number. For graduate students, we offer a number of cross-listed seminars as well as an annual core sequence in topics in the formation of knowledge (KNOW 401, 402, 403). These seminars are open to all graduate students regardless of field of study.

For up-to-date course listings, visit sifk.uchicago.edu/courses (https://sifk.uchicago.edu/courses/).

Departmental Contacts Administrative Manager Stefanie R. White srwhite@uchicago.edu (jvelazquez@uchicago.edu)

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# The Division of the Biological Sciences and the Pritzker School of Medicine

Kenneth S. Polonsky, M.D.

- Richard T. Crane Distinguished Service Professor
- Dean of the Division of the Biological Sciences and the Pritzker School of Medicine
- Executive Vice President for Medical Affairs

Victoria E. Prince, Ph.D.

- Professor, Department of Organismal Biology & Anatomy
- Dean of Graduate Affairs and Director, Office of Graduate and Postdoctoral Affairs

Halina Brukner, M.D.

- Professor, Department of Medicine
- Dean for Medical Education

The Division of the Biological Sciences is unique in encompassing both a medical school and graduate programs in biological sciences. Faculty in the division teach biology to undergraduate students, but the organization and administration of baccalaureate programs in the biological sciences is the responsibility of the College, through the office of the Master of the Biological Sciences Collegiate Division. The departments and faculty within the division are not separated by providing instruction to medical, graduate or college students, but rather all serve the entire curricular needs of the students in the university. This organizational structure makes possible a wide range of contacts and interactions among students and faculty in the basic and clinical science areas and affords singular study and research opportunities for students regardless of their program of study.

#### Degrees and Requirements

The Division of the Biological Sciences offers the degrees of Master of Science, Doctor of Philosophy, Doctor of Medicine, or Doctor of Medicine with Honors. Combined degrees (A.B./S.M. or M.D./Ph.D.) are available within certain special programs.

Recommendation for any of these degrees is conditional on the satisfactory completion of the academic requirements for the degree and the maintenance of proper conduct by the student while in the University.

## Master of Science

The Master of Science degree is awarded by the Division of the Biological Sciences in very specific circumstances: the S.M in Public Health Sciences for Clinical Professionals; the S.M. in Translational Research for PhD students in select BSD graduate programs; or as below:

- Those individuals not continuing in their Ph.D. program of study may be awarded a terminal masters degree.
- Some students who are continuing their Ph.D. programs specify a desire to receive a transitional Master of Science degree.

#### Doctor of Philosophy

A general statement of the conditions under which this degree is awarded is presented here. The more specific program requirements are described in the sections outlining the offerings of each graduate program.

- Bachelors degree from an accredited undergraduate institution.
- A minimum of three years of graduate work beyond the level of the bachelors degree. Advanced standing for
  graduate work completed at other institutions may be given if recommended by the graduate program concerned and
  approved by the Dean of Graduate Affairs.
- Completion of nine, letter graded courses at the University of Chicago, with a B average in course grades. This is a
  minimum; individual units may have more stringent requirements.
- Preliminary examination testing the candidate's general knowledge of their field of study.
- Fulfillment of the divisional teaching requirement. Before the Ph.D. can be awarded, students are required to serve
  as a teaching assistant twice (two quarters) for credit in preapproved positions in the biological sciences.
- Fulfillment of the divisional ethics requirement. All students receive training in scientific integrity and the ethical
  conduct of research. The first course is completed in the first year of study and the second training is taken in the fifth
  year, if the PhD is not yet completed.
- Formal admission to candidacy for the degree upon recommendation of the graduate program, after completion of all program-specific requirements, including course work and the preliminary examination if applicable. Admission to

candidacy is approved by the Dean of Graduate Affairs at least eight months before the degree is granted but generally occurs at the beginning of the third year of study.

- Acceptance of a dissertation submitted by the student to the graduate program having jurisdiction over the student's degree.
- A successful final examination administered by the graduate program concerned.

#### Combined Bachelor's/Master's

Students who have completed at least three years of undergraduate study in the College of the University of Chicago but have not completed their bachelor's degree may sometimes qualify for admission to a special A.B./S.M. program leading directly to the master's degree. Acceptance into such a program depends on a student's qualifications and on departmental policy. Only a few departments currently offer such a combined program. Inquiries should be made to the appropriate departments or the College office.

## Doctor of Medicine

This degree is normally awarded after fourteen quarters of satisfactory full time work at the University of Chicago Pritzker School of Medicine. To qualify for the M.D. degree, students must have completed at least the last eight academic quarters of medical studies in the School. Please see the Pritzker School of Medicine section for additional information on this degree.

#### Doctor of Medicine with Honors

Each year during the spring, the committee on honors and awards entertains nominations from individual departments of senior medical students to be awarded graduation with honors. It is the purpose of this committee to select those students who have demonstrated leadership qualities, outstanding scholastic performance, and significant research abilities and accomplishments. Membership in Alpha Omega Alpha is taken into consideration, but is not a prerequisite for the award. The names of students so honored appear in the convocation program followed by the notation with Honors. This notation also appears both on the official academic records and on the diplomas of such students.

#### M.D./Ph.D. Degrees

In addition to the regular degree programs in medicine (M.D.) and the basic sciences (Ph.D.), the Division of the Biological Sciences administers a few special joint degree programs, such as the Medical Scientist Training Program, Growth, Development and Disabilities Training Program and the MD-PhD program in Medicine, the Social Sciences and Humanities.



## Programs of Graduate Study in the Basic Biological Sciences

The Division of the Biological Sciences offers a variety of graduate programs leading to the Ph.D. degree. Graduate programs are offered under the aegis of divisional departments as well as interdepartmental committees composed of faculty members with a common interest in a broad but definable area of advanced study. Some programs are organized into larger groups called clusters, a structure that provides cohesion across programs through shared retreats, common curriculum, and shared administrative duties. A few programs offer unique training opportunities and are not organized into a cluster. Joint programs also may be devised in other divisions of the university, such as with chemistry in the Division of the Physical Sciences and psychology in the Division of the Social Sciences. The fundamentals of graduate education in the division are not altered by these provisions. Students complete their degree in individual graduate programs.

The University's hallmark emphasis on interdisciplinary research and collaboration, coupled with access to the latest technology and to three major affiliated laboratories, offers the opportunity to enrich human life in Chicago and around the globe through basic, translational, and clinical research.

The goal of the programs is the creation and dissemination of fundamental knowledge of life processes and the education and training of outstanding young scholars in these disciplines. To this end, the Division of the Biological Sciences has assembled a dedicated and talented faculty, strong in research and teaching, and has developed laboratory and other facilities of the first rank that allow the faculty and graduate students to pursue their goals at the highest level of excellence.

The programs of study leading to the Ph.D. degree are organized by cluster below.

Biomedical Sciences: Cancer, Immunology, Microbiology and Molecular Metabolism and Nutrition

- The Committee on Cancer Biology
- The Committee on Immunology
- The Committee on Molecular Metabolism and Nutrition
- The Committee on Microbiology

Darwinian Sciences: Ecological, Integrative, and Evolutionary Biology

- The Department of Ecology and Evolution
- The Committee on Evolutionary Biology
- Graduate Program in Integrative Biology

Molecular Biosciences: Biochemistry, Genetics, and Cell and Developmental Biology

- Graduate Program in Biochemistry and Molecular Biophysics
- The Committee on Development, Regeneration, and Stem Cell Biology
- The Department of Human Genetics
- The Committee on Genetics, Genomics, and Systems Biology
- Graduate Program in Cell and Molecular Biology

Neuroscience: Computational Neuroscience, Neurobiology and Integrative Neuroscience

- The Committee on Computational Neuroscience
- Program in Integrative Neuroscience (Psychology)
- The Committee on Neurobiology

These degree granting units have not entered into a cluster arrangement and provide separate admission. They are:

- The Department of Public Health Sciences (M.S. and Ph.D.)
- The Committee on Medical Physics
- Graduate Program in Biophysical Sciences (Joint with the Division of Physical Sciences)

#### Admission Procedures

The following requirements and procedures apply to those students wishing to follow a course of study leading to the Doctor of Philosophy degree in the division. Students may apply to a single cluster and as many as four individual units, indicating their choices in order of preference. According to their own schedules, the units applied to will communicate directly with the student as needed. Final decision letters are issued by the BSD Office of Graduate and Postdoctoral Affairs (OGPA).

### Application Materials

Information about graduate programs and application materials is available at http://biosciences.uchicago.edu/ (http:// biosciences.uchicago.edu).

## Deadlines

Applications are due December 1st. Late applications will be reviewed only at the discretion of the Dean for Graduate Affairs. Incomplete applications will be evaluated on the basis of materials received at the time of the regular review process. Interviews are often required and students will be invited to attend formal recruitment weekends. Responses by applicants to offers of admission are due to OGPA by April 15.

## Credentials

An applicant who holds an undergraduate degree from an accredited institution is considered for admission on the basis of:

- 1. An excellent undergraduate record
- 2. The Graduate Record Examination
- 3. A demonstrated interest in a research career
- Three letters of recommendation addressing the scientific abilities and potential for graduate studies of the applicant
- Proof of English proficiency for foreign students whose native language is not English; either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Certain programs require additional credentials. These additional requirements may be ascertained by contacting the individual program.

## Funding

The typical BSD graduate student working toward the Ph.D. degree is fully funded (regular tuition and fees and prevailing competitive stipend). Funds for this support are derived from numerous sources, including federal or private training grants, institutional funds, endowed funds, research grants and individual awards to students. During a student's course of study, support mechanisms may vary. Funds for international students are limited to institutional sources. Funding is guaranteed for five years, subject to maintaining satisfactory progress.



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# Quantitative and Computational Training Opportunities

The major focus in quantitative science is distributed across the University of Chicago, and our enrichment in the biological sciences division includes the Grossman Institute for Neuroscience, Quantitative Biology and Human Behavior, the Computation Institute (CI), the Center for Data Intensive Science (CDIS), Center for Research Informatics (CRI). Classes listed here are taken from across the University.

This page provides information regarding classes taught at the University relating to

•	General Quantitative Background	
•	Computation/Programming	
•	Dynamical and Stochastic Systems	
•	Inference (Models and Data)	
	Complex Systems and Systems Biology	
	Complex Systems and Systems Biology	
•	Scientific Computing	
•	Theory, Computation and Statistical Inference	
	Classes in General Quantitative Background	
HGEN 47400	Introduction to Probability and Statistics for Geneticists	100
MPHY 34900	Mathematics for Medical Physics	100
PBHS 32100	Introduction to Biostatistics	100
PBHS 32400	Applied Regression Analysis	100
PBHS 32700	Biostatistical Methods	100
PBHS 33200	Statistical Analysis with Missing Data	100
PBHS 33500	Statistical Applications	100
STAT 24400	Statistical Theory and Methods I	100
STAT 30750	Numerical Linear Algebra	100
	Classes in Computation/Programming	
ECEV 32000	Computing Skills for Biologists	100
STAT 37810	Statistical Computing A	100
& STAT 37820	and Statistical Computing B	
	Classes in	
	Dynamical and Stochastic Systems	
CPNS 31000	Mathematical Methods for Biological Sciences I	100
CPNS 31100	Mathematical Methods for Biological Sciences II	100
MGCB 32000	Quantitative Analysis of Biological Dynamics	100
MPHY 39600	Image Processing/Computer Vision	100
	Classes in Inference (Models and Data)	
GEOS 26100	Phylogenetics and the Fossil Record	100
GEOS 35100	Data Analysis for the Geophysical Sciences	100
GEOS 36000	Morphometrics	100
GEOS 36100	Phylogenetics and the Fossil Record	100
HGEN 48600	Fundamentals of Computational Biology: Models and Inference	100
PBHS 32600	Analysis of Categorical Data	100
PBHS 33300	Applied Longitudinal Data Analysis	100
PBHS 33400	Multilevel Modeling	100
PBHS 43010	Applied Bayesian Modeling and Inference	100
PBHS 43201	Introduction to Causal Inference	100

	Courses in Complex Systems and Systems Biology	
HGEN 47300	Genomics and Systems Biology	100
PHYS 25100	Chaos, Complexity And Computers	100
STAT 38620	Social Networks, Probability, Learning, and Game Theory	100
	Courses in Scientific Computing	
ECEV 32000	Computing Skills for Biologists	100
MPCS 53003	Advanced Databases	100
STAT 37601	Machine Learning and Large-Scale Data Analysis	100
	Courses in Theory, computation and statistical inference in specific fields	
CPNS 35510	Theoretical Neuroscience: Single Neuron Dynamics and Computation	100
CPNS 35520	Theoretical Neuroscience: Network Dynamics and Computation	100
CPNS 35600	Theoretical Neuroscience: Statistics and Information Theory	100
ECEV 35600	Principles of Population Genetics-1	100
ECEV 42800	Population Ecology	100
ECEV 42900	Theoretical Ecology	100
GEOG 38201	Intro to Geographic Information Systems	100
GEOG 38400	Intermediate GIS/Cartography	100
HGEN 46900	Human Variation and Disease	100
HGEN 47100	Intro Statistical Genetics	100
PBHS 32901	Introduction to Clinical Trials	100
PBHS 35100	Health Services Research Methods	100
STAT 35800	Statistical Applications	100
STAT 35400	Gene Regulation	100
STAT 35500	Statistical Genetics	100
STAT 35700	Epidemiologic Methods	100



## Graduate Program in Biochemistry and Molecular Biophysics

Chair

Tobin R. Sosnick

Professors

- Erin J. Adams
- Francisco Bezanilla
- Glyn Dawson, Pediatrics
- Geoffrey Greene, Ben May Department for Cancer Research
- Chuan He, Chemistry
- Robert J. Keenan
- Stephen B. H. Kent
- Anthony A. Kossiakoff
- David Kovar, Molecular Genetics & Cell Biology
- Marvin W. Makinen
- Stephen Meredith, Pathology
- Keith Moffat
- Tao Pan
- Eduardo Perozo
- Joseph A. Piccirilli
- Rama Ranganathan
- Phoebe A. Rice
- Benoit Roux
- Alex Ruthenburg, Molecular Genetics & Cell Biology
- Nancy B. Schwartz, Pediatrics
- James A. Shapiro
- Tobin R. Sosnick
- Joseph Thornton, Human Genetics

Associate Professors

- Ronald S. Rock
- D. Allan Drummond

Assistant Professors

- Demet Arac-Ozkan
- Jingyi Fei
- Engin Ozkan
- Minglei Zhou
- Juan Mendoza, Pritzker School of Molecular Engineering

Emeritus Faculty

- Wolfgang Epstein
- Theodore L. Steck
- Edwin W. Taylor

The biochemistry and molecular biophysics graduate program is a highly interdisciplinary program of study offered by the Department of Biochemistry and Molecular Biology. The program forges a scientific culture of collaboration across the physical and biological sciences and among diverse laboratories. In this environment, students will have the opportunity to engage in research that aims to understand biological processes at the molecular level. The program is designed to encourage students to pursue research interests at the biological-physical sciences interface using diverse approaches such as structural and chemical biology, molecular and single molecule biophysics, combinatorial mutagenesis, protein engineering and RNA and DNA protein recognition.

#### Admission

For information about applying to our graduate program, please visit our website at http://bcmb.uchicago.edu (http:// collegecatalog.uchicago.eduHttp://bcmb.uchicago.edu).

#### Degrees

## Doctor of Philosophy

A Ph.D. program requires generally 4 to 6 years of study. In the first year, students engage in course work and small research projects in several laboratories to become acquainted with the department. Also during the first year there are many opportunities to attend departmental seminars and the Graduate Student Seminar Series and to participate in the visits of invited speakers. In the summer quarter of the first year students engage in the preliminary examination, in which they develop, write, and defend an original research proposal. After successful completion of the preliminary examination, students choose a research advisor, carry out their Ph.D. research in the advisor's laboratory, and write and orally defend a thesis.

The following courses are required:

BCMB 30400	Protein Fundamentals	100
BCMB 31600	Cell Biology I	100
BCMB 31200	Molecular Biology I	100
BCMB 32200	Biophysics of Biomolecules	100

Two additional courses (BCMB 31900 – Introduction to Faculty Research, also called "Faculty All Stars" and BCMB 31800 – Current Seminar Topics in Biochemistry and Molecular Biology) are required. The introduction to faculty research course is not for credit; however, BCMB 31800 is for ½ credit. Each student is required to be a teaching assistant for a total of two quarters in their third and fourth years of residence.

The preliminary examination in BMB consists of a written research proposal that is prepared and submitted during the summer quarter of the first year (the fourth quarter in residence). Students (including ISTP students interested in joining BMB) will be permitted to take the preliminary examination only after all course and grade requirements have been met. The exam consists of a concise written research proposal and an oral defense of the proposal. Students are expected to demonstrate their ability to 1) identify a scientific problem, 2) propose experiments to address the problem, 3) interpret potential outcomes from the experiments, and 4) frame the question and results in a broader scientific context. In addition, students are evaluated on their ability to convey their ideas clearly in the written proposal and to defend the proposal orally. The chairperson of each exam committee will then contact the student regarding the outcome of their exam and provide written feedback. Two outcomes are possible: Pass or Revisions Needed. If revisions are required, the student will have the opportunity to respond to the committee's concerns and either revise portions of the proposal or re-write the entire proposal as indicated by the committee. In these cases, students will need to write a cover letter addressing the concerns of the committee and the changes that have been made. In addition, students may be required to re-defend the revisions orally with part or all of the exam committee. If a student is asked to re-write and re-defend the entire proposal, an additional faculty member will be added to the exam committee. Inadequate performance on a second exam is grounds for dismissal from the program. For continuation in the program, students must successfully pass the Preliminary Examination by the end of the fifth quarter of full-time residence as a graduate student in biochemistry and molecular biology.

During the second year, students select a thesis advisor and begin laboratory research. To complete the Ph.D. degree, they must prepare, under the general direction of an appointed doctoral committee, a dissertation based upon their original research. A public seminar describing the results of the dissertation research must be presented and the dissertation must be successfully defended before the doctoral committee.

#### Biochemistry and Molecular Biology Courses

#### BCMB 30400. Protein Fundamentals. 100 Units.

The course covers the physical chemical phenomena that define protein structure and function. Topics include: threedimensional structures of proteins; the principles of protein folding, molecular motion and molecular recognition; protein evolution, design and engineering; enzyme catalysis; regulation of protein function; proteomics and systems biology. Undergraduates are highly recommended to take BIOS 20200 (Introduction to Biochemistry) or equivalent before taking this course.

Instructor(s): E. Ozkan, J. Piccirilli, D. Arac Terms Offered: Autumn Equivalent Course(s): MGCB 30400, HGEN 30400

#### Equivalent Course(s): MOCB 50400, HOEN 50400

## BCMB 30600. Nucleic Acid Structure and Function. 100 Units.

This course focuses on the biochemistry of nucleic acids. Topics include nucleic acid structure, folding, and chemistry, protein-nucleic acid interactions, non-coding RNAs, and the enzymology of key processes such as DNA replication, repair and recombination. A special emphasis is placed on primary literature.

Instructor(s): P. Rice, J. Fei Terms Offered: Autumn

Prerequisite(s): Course in biochemistry, molecular biology and organic chemistry

#### BCMB 30800. Single Molecule Biochemistry. 100 Units.

This course presents a series of advanced case studies designed to familiarize students with current single molecule research. Topics include: motor proteins and the cytoskeleton, nucleic acid processing enzymes, ion channels, and force spectroscopy and macromolecule folding.

Instructor(s): R. Rock, F. Bezanilla Terms Offered: Spring

## BCMB 31100. Evolution of Biological Molecules. 100 Units.

The course connects evolutionary changes imprinted in genes and genomes with the structure, function and behavior of the encoded protein and RNA molecules. Central themes are the mechanisms and dynamics by which molecular structure and function evolve, how protein/ RNA architecture shapes evolutionary trajectories, and how patterns in present-day sequence can be interpreted to reveal the interplay data of evolutionary bistory and molecular properties. Core concepts in macromolecule biochemistry (folding and stability of proteins and RNA, structure-function relationships, kinetics, catalysis) and molecular evolution (selection, mutation, drift, epistasis, effective population size, phylogenetics) will be taught, and the interplay between them explored.

Instructor(s): A. Drummond, J. Thornton Terms Offered: Winter

Prerequisite(s): Comfort with basic computer programming (course will use Python and R); undergraduate biology, chemistry, calculus, and introductory statistics.

Equivalent Course(s): ECEV 31100, HGEN 31100

#### BCMB 31200. Molecular Biology I. 100 Units.

Nucleic acid structure and DNA topology; methodology; nucleic-acid protein interactions; mechanisms and regulation of transcription in eubacteria, and of replication in eubacteria and eukaryotes; mechanisms of genome and plasmid segregation in eubacteria.

Instructor(s): L. Rothman-Denes Terms Offered: Winter Equivalent Course(s): MGCB 31200, DVBI 31200

## BCMB 31300. Molecular Biology-II. 100 Units.

The content of this course covers the mechanisms and regulation of eukaryotic gene expression at the transcriptional and post-transcriptional levels. Our goal is to explore research frontiers and evolving methodologies. Rather than focusing on the elemental aspects of a topic, the lectures and discussions highlight the most significant recent developments, their implications and future directions.

Instructor(s): J. Staley, A. Ruthenburg, H.C. Lee Terms Offered: Spring

Prerequisite(s): Molecular Biology I (MGCB 31200) or by special permission of an instructor Equivalent Course(s): MGCB 31300, DVBI 31300

#### BCMB 31358. Simulation, Modeling, and Computation in Biophysics. 100 Units.

This course develops skills for modeling biomolecular systems. Fundamental knowledge covers basic statistical mechanics, free energy, and kinetic concepts. Tools include molecular dynamics and Monte Carlo simulations, random walk and diffusion equations, and methods to generate random Gaussian and Poisson distributors. A term project involves writing a small program that simulates a process. Familiarity with a programming language or Mathlab would be valuable. Instructor(s): B. Roux Terms Offered: Winter

Prerequisite(s): BIOS 20200 and BIOS 26210-26211, or consent from instructor

Equivalent Course(s): BIOS 21358, CPNS 31358

### BCMB 31400. Genetic Analysis of Model Organisms. 100 Units.

Fundamental principles of genetics discussed in the context of current approaches to mapping and functional characterization of genes. The relative strengths and weaknesses of leading model organisms are emphasized via problem-solving and critical reading of original literature.

Equivalent Course(s): DVBI 31400, HGEN 31400, MGCB 31400

## BCMB 31600. Cell Biology I. 100 Units.

Eukaryotic protein traffic and related topics, including molecular motors and cytoskeletal dynamics, organelle architecture and biogenesis, protein translocationand sorting, compartmentalization in the secretory pathway, endocytosis and exocytosis, and mechanisms and regulation of membrane fusion. Instructor(s): A. Turkewitz, B. Glick Terms Offered: Autumn

Equivalent Course(s): HGEN 31600, MGCB 31600, DVBI 31600

#### BCMB 31700. Cell Biology II. 100 Units.

This course covers the mechanisms with which cells execute fundamental behaviors. Topics include signal transduction, cell cycle progression, cell growth, cell death, cancer biology, cytoskeletal polymers and motors, cell motility, cytoskeletal diseases, and cell polarity. Each lecture will conclude with a dissection of primary literature with input from the students. Students will write and present a short research proposal, providing excellent preparation for preliminary exams. Instructor(s): M. Glotzer, D. Kovar Terms Offered: Winter

Prerequisite(s): For undergraduates: Three quarters of a Biological Sciences Fundamentals sequence. Equivalent Course(s): BIOS 21238, DVBI 31700, MGCB 31700

#### BCMB 31900. Introduction to Research. 100 Units.

Lectures on current research by departmental faculty and other invited speakers. A required course for all first-year graduate students.

Instructor(s): Staff Terms Offered: Autumn, Winter Equivalent Course(s): DVBI 31900, MGCB 31900, GENE 31900, HGEN 31900

## BCMB 32200. Biophysics of Biomolecules. 100 Units.

This course covers the properties of proteins, RNA, and DNA, as well as their interactions. We emphasize the interplay between structure, thermodynamics, folding, and function at the molecular level. Topics include cooperativity, linked equilibrium, hydrogen exchange, electrostatics, diffusion, and binding.

Instructor(s): T. Sonic

Equivalent Course(s): BIOS 21328, BPHS 31000

## BCMB 32300. Structure and Function of Membrane Proteins. 100 Units.

This course will be an in depth assessment of the structure and function of biological membranes. In addition to lectures, directed discussions of papers from the literature will be used. The main topics of the courses are: (1) Energetic and thermodynamic principles associated with membrane formation, stability and solute transport (2) membrane protein structure, (3) lipid-protein interactions, (4) bioenergetics and transmembrane transportmechanisms, and (5) specific examples of membrane protein systems and their function (channels, transporters, pumps, receptors). Emphasis will be placed on biophysical approaches in these areas. The primary literature will be the main source of reading. Instructor(s): E. Perozo Terms Offered: Autumn

Equivalent Course(s): MGCB 32300

## BCMB 32600. Methods in Structural Biology. 100 Units.

This course aims to provide students with the theoretical and applied knowledge on the use of modern structural biology methods, namely x-ray crystallography, cryo-electron microscopy and nuclear magnetic resonance spectroscopy. The course includes lectures and hands-on laboratory sessions, including a data-collection visit to the synchrotron at Argonne National Lab, collection of microscopy images at the Advanced Electron Microscopy Facility at UChicago, and data collection at our local NMR facility. The lectures will include x-ray diffraction theory, strategies to solve the phase problem, principles of electron microscopy and optics, single particle analysis, tomography, various NMR techniques and structure calculations from 3D spectra, model building and validation, and recent advances. The laboratory sessions will take registered students from sample preparation to model refinement and building using state-of-the-art experimental and computational tools. Basic knowledge of protein chemistry (as provided in BCMB 30400) strongly recommended.

Instructor(s): Minglei Zhao, Engin Özkan, Stephen Meredith, Joseph Sachleben Terms Offered: Spring 2019

## BCMB 32800. Introduction to Data Science in Biochemistry and Biophysics. 100 Units.

This course will introduce students to exploratory computational data analysis in biochemistry. We will begin with exploration of example datasets in the R programming language for statistics. We will cover approaches to wrangle data into shape for analysis, to develop models that explain trends in data sets, and finally to refining our graphical presentation and preparing analysis reports and figures for publication. A middle segment will cover best practices with tooling and and workflows, including navigating the shell in Linux/Unix/BSD systems. Finally, we will introduce students to the Julia programming language, which is useful for more complex problems where expressiveness and performance matter. The course will follow a lecture format, with live, in class exercises.

Instructor(s): Ronald Rock Terms Offered: Spring

#### BCMB 39800. Selected Reading Topics: Biochemistry & Molecular Biology. 100 Units.

Subject matter for individual tutorial-based study is selected through prior consultation and is given under the guidance of a faculty member. The student and faculty member must indicate at time of registration whether the course will be taken on a letter grade or pass/fail basis.

Instructor(s): Staff Terms Offered: Summer, Autumn, Winter, Spring Prerequisite(s): Consent of Department and Instructor

#### BCMB 39900. Intro To Research: BCMB. 300.00 Units.

Subject matter for individual tutorial-based study is selected through prior consultation and is given under the guidance of a faculty member. The student and faculty member must indicate at time of registration whether the course will be taken on a letter grade or pass/fail basis.

## BCMB 40100. Research in Biochemistry and Molecular Biology. 300.00 Units.

The student conducts original investigation under the direction of a faculty member. The research is presented and defended as a dissertation in candidacy for the degree of Doctor of Philosophy.

Instructor(s): Staff Terms Offered: Summer, Autumn, Winter, Spring

Prerequisite(s): Completion of course requirements adn Preliminary Examination at the Ph.D. level and approval of Chairman of the Department.

## BCMB 70000. Advanced Study: Biochemistry & Molecular Biology. 300.00 Units.

Advanced Study: Biochemistry & Molecular Biology



# Committee on Cancer Biology

Chair

Stephen Kron, Molecular Genetics and Cell Biology

Professors

- Erin Adams, Biochemistry and Molecular Biology
- Habibul Ahsan, Public Health Sciences
- Douglas Bishop, Radiation and Cellular Oncology
- Susan Cohn, Pediatrics
- Glyn Dawson, Pediatrics
- M. Eileen Dolan, Medicine
- Wei Du, Ben May Department for Cancer Research
- Thomas Gajewski, Medicine
- Margaret Gardel , Physics
- Lucy Godley, Medicine
- David Grdina, Radiation and Cellular Oncology
- Geoffrey Greene, Ben May Department for Cancer Research
- Gregory Karczmar, Radiation and Cellular Oncology
- Howard Halpern, Radiation and Cellular Oncology
- Barbara Kee, Pathology
- Robert Keenan, Ben May Department of Cancer Research
- Stephen Kron, Molecular Genetics and Cell Biology
- Michelle Le Beau, Medicine
- Ernst Lengyel, Obstetrics and Gynecology
- Anning Lin, Ben May Department for Cancer Research
- Mark Lingen, Pathology
- Kay Macleod, Ben May Department for Cancer Research
- Scott Oakes, Pathology
- Olufunmilayo Olopade, Medicine
- Ilaria Rebay, Ben May Department for Cancer Research
- Marsha Rosner, Ben May Department for Cancer Research
- Hans Schreiber, Pathology
- Walter Stadler, Medicine
- Melody Swartz, Pritzker School of Molecular Engineering
- Wei-Jen Tang, Ben May Department for Cancer Research
- Mitchel Villereal, Neurobiology, Pharmacology and Physiology
- Ralph R. Weichselbaum, Radiation and Cellular Oncology
- Amittha Wickrema, Medicine
- Bakhtiar Yamini, Surgery-Neurosurgery
- Yingming Zhao, Ben May Department for Cancer Research

#### Associate Professors

- Lev Becker, Ben May Department for Cancer Research
- Matthew Brady, Medicine
- Daniel Catenacci, Medicine
- Tong Chuan He, Surgery
- Fotini Gounari, Medicine
- Justin Kline, Medicine
- James LaBelle, Pediatrics
- Megan McNerney, Pathology
- Peter Savage, Pathology
- Michael Spiotto, Radiation and Celluar Oncology
- Russell Szmulewitz, Medicine

- Michael Thirman, Medicine
- Xiaoyang Wu, Ben May Department for Cancer Research

Assistant Professors

- Mark Applebaum, Pediatrics
- Jane Churpek, Medicine
- Jill de Jong, Pediatrics
- Bryan Dickinson, Chemistry
- Shannon Elf, Ben May Department for Cancer Research
- Daria Esterhazy, Pathology
- Yu-Ying He, Medicine
- Jun Huang, Pritzker School of Molecular Engineering
- Andrew Koh, Pathology
- Raymond Moellering, Chemistry
- Alexander Muir, Ben May Department for Cancer Research
- Akash Patnaik, Medicine
- Lixing Yang, Ben May Department of Cancer Research

The Committee on Cancer Biology (CCB) provides multidisciplinary and integrated training in cancer biology with an emphasis on innovation and critical thinking in cancer research. The program provides doctoral students with the most upto-date knowledge and research training with the goal of preparing students for leadership and research careers in academia, industry, clinical research, science journalism, advocacy and policy and other relevant areas of the biomedical workforce. The program prepares students to conduct research by offering a core curriculum that focuses on multiple aspects of cancer biology, including molecular mechanisms of cancer, tumor progression and metastasis, autophagy and tumor metabolism, cancer genomics, computational approaches and big data analysis, mechanisms of drug resistance and tumor heterogeneity, in addition to translational research approaches. With 60 faculty members from across the University of Chicago with diverse interests in all of these research areas, students have a broad choice of research concentrations to select from for their thesis research project.

The CCB is committed to fostering interactions amongst graduate students, postdoctoral fellows, and faculty, and has a consistent track record of success in mentorship with many trainees publishing their work in outstanding journals and going on to run their own research labs. This is achieved through our core curriculum, a weekly cancer biology seminar series, journal clubs, student research presentations, group research meetings, an annual retreat and symposia. All of our students attend the AACR meeting in their third year of graduate school and numerous other opportunities are available to our students to present their data at international meetings and symposia. Our dedicated program in cancer biology is one of the most established in the country and is supported by an NCI training grant in addition to valuable support from foundations allowing us to continue to recruit and train the next generation of expert cancer biologists.

In addition to formal course work, the program sponsors a student led journal club, a student/postdoctorate research presentation group, and an annual program retreat in which students and trainees present their research findings. In addition, the program co-sponsors the Ben May Symposium with the Ben May Department for Cancer Research. This symposium brings speakers of international renown to campus. Students and trainees also have the opportunity to attend national meetings and cancer biology workshops off campus. Through the auspices of the Ben May Department for Cancer Research, the Section of Hematology/Oncology, and the University of Chicago Cancer Research Center (an NCI designated Cancer Center), there are several additional seminar series and a clinical cancer research/basic science research translational conference. Thus, there is a thriving, interactive community of cancer researchers.

#### Admission

Prospective students interested in obtaining the Ph.D. in cancer biology should submit an application to the Biological Sciences Division by December 1st of each year; indicate their cluster of interest as Biomedical Sciences and select Cancer Biology as their proposed degree program.

## The Degree of Doctor of Philosophy

Ph.D. requirements include:

- Completion of 9.5 course credits consisting of basic science, cancer biology and elective courses
- A preliminary examination
- A dissertation based on original research
- A final thesis examination

#### Committee on Cancer Biology Courses

CABI 30500	Heterogeneity in Human Cancer: Etiology and Treatment	100
CABI 30800	Cancer Biology I: Fundamentals in Cancer Biology	100

CABI 30810	Directed Readings in Cancer Immunology	100
CABI 30900	Cancer Biology II: Molecular Mechanisms in Cancer Biology	100
CABI 31000	BMSC All Stars	50
CABI 31100	Ethics in Scientific Research	50
CABI 31600	Cancer Biology IV: Hypothesis Design and Grant Writing Skills	100
CABI 31900	Protein Structure and Functions in Medicine	100
CABI 32000	Cancer Biology III: Translational Approaches in Cancer Biology	100
CABI 39000	Cancer Biology V: Introduction to Experimental Cancer Biology	50
CABI 39900	Readings: Cancer Biology	100
CABI 40100	Research: Cancer Biology	300.00
CABI 47300	Genomics and Systems Biology	100
CABI 70000	Advanced Study: Cancer Biology	300.00



# Graduate Program in Cell and Molecular Biology

## Chair

David Kovar

## Faculty accepting students into their lab

## Professors

- Douglas K. Bishop, Radiation & Cellular Oncology
- Edwin L. Ferguson
- Richard Fehon
- Margaret Gardel, Physics
- Benjamin Glick
- Michael Glotzer
- Jean Greenberg
- David Kovar
- Stephen J. Kron
- Ilaria Rebay, Ben May Department for Cancer Research
- John Reinitz, Statistics
- Lucia Rothman-Denes
- Jonathan P. Staley
- Aaron Turkewitz

#### Associate Professors

- Sally Horne-Badovinac
- Jocelyn Malamy
- Ed Munro
- Michael Rust
- Alex Ruthenburg

## Assistant Professors

- Robert Carrillo
- Ellie Heckscher
- Paschalis Kratsios
- Heng-Chi Lee
- David Pincus

## Faculty not accepting students into their lab

Professors

- Robert Josephs
- Bernard Roizman, Microbiology

Associate Professors

- Gayle K. Lamppa
- Laurens J. Mets

## Emeritus Faculty

- Kwen Sheng Chiang
- Wolfgang Epstein
- Rochelle Easton Esposito
- Robert Haselkorn
- Anthony Mahowald
- Terence E. Martin
- Theodore L. Steck, Biochemistry & Molecular Biology
- Ursula B. Storb
- Bernard S. Strauss
- Edwin W. Taylor

In the graduate program in cell and molecular biology, the Ph.D. degree places great emphasis on rigorous, didactic preparation in cell biology, molecular biology, and genetics, and focuses on choosing questions, defining experimental approaches, and interpreting data. Once qualified, advanced students choose from a wider range of opportunities for research in cell biology, molecular biology, genetics, developmental biology, plant biology, and microbiology. Of special interest is the design of interdisciplinary programs that emphasize the frontiers of biology.

#### The Degree of Doctor of Philosophy

The graduate program in cell and molecular biology offers a program of study leading to the Doctor of Philosophy in molecular genetics and cell biology. A Ph.D. candidate must fulfill certain formal coursework requirements, pass one preliminary and one qualifying examination, and present a satisfactory dissertation describing the results of original research.

The program expects knowledge of and proficiency in cell biology, molecular biology, and genetics. This requirement will normally be met by fulfilling the formal coursework described here, but detailed degree programs are flexible. Courses taken at other institutions, in other departments, or as part of the Pritzker School of Medicine curriculum may substitute for CMB courses with approval of the curriculum committee. To fulfill the requirements for a Ph.D., nine graded courses are required. In the program in cell and molecular biology, a student must take one course in each of three areas during the first year:

- Cell biology
- Molecular biology
- Genetics

In addition to these core courses, a second course in one of these areas is required to develop greater proficiency in a subdiscipline. The total of four required courses can be selected from among the following courses: MGCB 31200 Molecular Biology I, MGCB 31300 Molecular Biology-II, MGCB 31400 Genetic Analysis of Model Organisms, MGCB 31600 Cell Biology I, and MGCB 31700 Cell Biology II. Three additional graded electives must be taken, one of which may be a reading course. The electives can be selected according to the student's interests and the availability of courses.

A student is also required to do three laboratory rotations before selecting an advisor and laboratory to pursue a Ph.D. dissertation. These rotations will be graded, and two will count towards the nine courses required for the Ph.D. All students are required to serve as a teaching assistant for two quarters.

Students select a thesis advisor and begin laboratory research by the tenth month of the first year. To complete the Ph.D. degree, they must prepare, under the general direction of an appointed doctoral committee, a dissertation based upon their original research. Students are also required to submit, if not publish, at least one first author paper prior to their defense. A public seminar describing the results of the dissertation research must be presented and the dissertation must be successfully defended before the doctoral committee.

#### Admissions

For information about applying to our graduate program, please visit our website https://camb.uchicago.edu/. (http://molbio.bsd.uchicago.edu/)

# Molecular Genetics and Cell Biology Courses

# MGCB 30400. Protein Fundamentals. 100 Units.

The course covers the physical chemical phenomena that define protein structure and function. Topics include: threedimensional structures of proteins; the principles of protein folding, molecular motion and molecular recognition; protein evolution, design and engineering; enzyme catalysis; regulation of protein function; proteomics and systems biology. Undergraduates are highly recommended to take BIOS 20200 (Introduction to Biochemistry) or equivalent before taking this course.

Instructor(s): E. Ozkan, J. Piccirilli, D. Arac Terms Offered: Autumn Equivalent Course(s): BCMB 30400, HGEN 30400

#### MGCB 31200. Molecular Biology I. 100 Units.

Nucleic acid structure and DNA topology; methodology; nucleic-acid protein interactions; mechanisms and regulation of transcription in eubacteria, and of replication in eubacteria and eukaryotes; mechanisms of genome and plasmid segregation in eubacteria.

Instructor(s): L. Rothman-Denes Terms Offered: Winter Equivalent Course(s): BCMB 31200, DVBI 31200

## MGCB 31300. Molecular Biology-II. 100 Units.

The content of this course covers the mechanisms and regulation of eukaryotic gene expression at the transcriptional and post-transcriptional levels. Our goal is to explore research frontiers and evolving methodologies. Rather than focusing on the elemental aspects of a topic, the lectures and discussions highlight the most significant recent developments, their implications and future directions.

Instructor(s): J. Staley, A. Ruthenburg, H.C. Lee Terms Offered: Spring

Prerequisite(s): Molecular Biology I (MGCB 31200) or by special permission of an instructor Equivalent Course(s): DVBI 31300, BCMB 31300

# MGCB 31400. Genetic Analysis of Model Organisms. 100 Units.

Fundamental principles of genetics discussed in the context of current approaches to mapping and functional characterization of genes. The relative strengths and weaknesses of leading model organisms are emphasized via problem-solving and critical reading of original literature.

Equivalent Course(s): DVBI 31400, HGEN 31400, BCMB 31400

#### MGCB 31600. Cell Biology I. 100 Units.

Eukaryotic protein traffic and related topics, including molecular motors and cytoskeletal dynamics, organelle architecture and biogenesis, protein translocationand sorting, compartmentalization in the secretory pathway, endocytosis and exocytosis, and mechanisms and regulation of membrane fusion.

Instructor(s): A. Turkewitz, B. Glick Terms Offered: Autumn

Equivalent Course(s): HGEN 31600, BCMB 31600, DVBI 31600

#### MGCB 31700. Cell Biology II. 100 Units.

This course covers the mechanisms with which cells execute fundamental behaviors. Topics include signal transduction, cell cycle progression, cell growth, cell death, cancer biology, cytoskeletal polymers and motors, cell motility, cytoskeletal diseases, and cell polarity. Each lecture will conclude with a dissection of primary literature with input from the students. Students will write and present a short research proposal, providing excellent preparation for preliminary exams. Instructor(s): M. Glotzer, D. Kovar Terms Offered: Winter

Prerequisite(s): For undergraduates: Three quarters of a Biological Sciences Fundamentals sequence.

Equivalent Course(s): BCMB 31700, BIOS 21238, DVBI 31700

#### MGCB 31900. Introduction to Research. 100 Units.

Lectures on current research by departmental faculty and other invited speakers. A required course for all first-year graduate students.

Instructor(s): Staff Terms Offered: Autumn, Winter

Equivalent Course(s): BCMB 31900, DVBI 31900, GENE 31900, HGEN 31900

#### MGCB 32000. Quantitative Analysis of Biological Dynamics. 100 Units.

The basic focus of the course will be quantitative approaches to understanding organization and dynamics at the molecular, subcellular and cellular levels, and will rest on three pillars - modern imaging and image analysis, quantitative analysis and presentation of data, mathematical modeling and computer simulations.

Instructor(s): Edwin Munro; Michael Rust Terms Offered: Spring

Equivalent Course(s): DVBI 32000

#### MGCB 32100. Senior Graduate Student Ethics. 100 Units.

This course explores specific ethical dilemmas that may arise in laboratory settings. The format of this course will provide opportunities for all students to voice their questions and opinions. Student groups of 4-5 will act as a review board during each session. Class time will center around the case, the conclusions of the review board, and the steps that should be taken to remedy the situation, if any. Faculty will guide and stimulate discussion in each case. Faculty will also provide any relevant University bylaws and/or NIH guidelines. Following the session, review board members will submit a formal 1-2 page justified decision in writing to the instructor. Successful completion of the course requires active participation in group presentations and general class discussions as well as joint submission of review board summaries. Instructor(s): K. Moffat Terms Offered: Spring

#### MGCB 32300. Structure and Function of Membrane Proteins. 100 Units.

This course will be an in depth assessment of the structure and function of biological membranes. In addition to lectures, directed discussions of papers from the literature will be used. The main topics of the courses are: (1) Energetic and thermodynamic principles associated with membrane formation, stability and solute transport (2) membrane protein structure, (3) lipid-protein interactions, (4) bioenergetics and transmembrane transportmechanisms, and (5) specific examples of membrane protein systems and their function (channels, transporters, pumps, receptors). Emphasis will be placed on biophysical approaches in these areas. The primary literature will be the main source of reading. Instructor(s): E. Perozo Terms Offered: Autumn

Equivalent Course(s): BCMB 32300

# MGCB 32500. Quantitative Analysis of Biological Dynamics II. 100 Units.

This is a workshop style course in which students will work closely with instructors and TAs to implement mathematical/ computational approaches to address specific research problems of interest to individual students. The course is open to all students who have taken MGCB/DRSB 32000 or its equivalent, or who have otherwise acquired a basic working knowledge of one or more programming languages (e.g. R, Matlab, Python). The course will function as follows: prior to enrollment, each interested student will meet with the course instructors to discuss an open scientific question they wish to address using mathematical/computational approaches. The course will begin with a short presentation from each student describing the problem they propose to study, followed by a discussion with the rest of the students and the course instructors about possible approaches. The course and TAs will then meet one-one with students over the course of the quarter to help students implement the proposed strategies and adapt to challenges that emerge through this process. Students will reconvene weekly as a group to report on their progress and discuss alternative approaches.

Instructor(s): E. Munro, M. Rust Terms Offered: Spring. Offered in alternating years beginning Spring 2020.

Prerequisite(s): MGCB 32000, DVBI 32000

Equivalent Course(s): DVBI 32550

# MGCB 34300. Image Processing in Biology. 100 Units.

Whether one is trying to read radio signals from faraway galaxies or to understand molecular structures, it is necessary to understand how to read, interpret, and process the data that contain the desired information. In this course, we learn how to process the information contained in images of molecules as seen in the electron microscope. We also deal with the principles involved in processing electron microscope images, including the underlying analytical methods and their computer implementation.

Instructor(s): R. Josephs Terms Offered: Spring. Offered every other year in even years.

Prerequisite(s): For College students: Three quarters of a Biological Sciences Fundamentals sequence and one year of calculus

Equivalent Course(s): BIOS 21407

# MGCB 35401. Gene Regulation. 100 Units.

This course covers the fundamental theory of gene expression in prokaryotes and eukaryotes through lectures and readings in the primary literature. Natural and synthetic genetic systems arising in the context of E. coli physiology and Drosophila development will be used to illustrate fundamental biological problems together with the computational and theoretical tools required for their solution. These tools include large-scale optimization, image processing, ordinary and partial differential equations, the chemical Langevin and Fokker-Planck equations, and the chemical master equation. A central theme of the class is the art of identifying biological problems which require theoretical analysis and choosing the correct mathematical framework with which to solve the problem.

Terms Offered: To be determined; may not offered in 2020-2021.

Prerequisite(s): Consent of instructor

Equivalent Course(s): CAAM 35400, STAT 35400, ECEV 35400

# MGCB 35420. Stochastic Processes in Gene Regulation. 100 Units.

This didactic course covers the fundamentals of stochastic chemical processes as they arise in the study of gene regulation. The central object of study is the Chemical Master Equation and its coarse-grainings at the Langevin/Fokker-Planck, linear noise, and deterministic levels. We will consider both mathematical and computational approaches in contexts where there are both single and multiple deterministic limits.

Instructor(s): J. Reinitz Terms Offered: To be determined; may not be offered in 2020-2021.

Prerequisite(s): Consent of instructor.

Equivalent Course(s): STAT 35420, ECEV 35420, CAAM 35420

#### MGCB 35600. Vertebrate Development. 100 Units.

This advanced-level course combines lectures, student presentations, and discussion sessions. It covers major topics on the developmental biology of embryos (e.g. formation of the germ line, gastrulation, segmentation, nervous system development, limb pattering, organogenesis). We make extensive use of the primary literature and emphasize experimental approaches including embryology, genetics, and molecular genetics.

Instructor(s): V. Prince, P. Kratsios. Terms Offered: Spring

Prerequisite(s): For Biological Sciences majors: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20189 or BIOS 20190

Equivalent Course(s): BIOS 21356, DVBI 35600, ORGB 33600

#### MGCB 36100. Plant Development and Molecular Genetics. 100 Units.

Genetic approaches to central problems in plant development will be discussed. Emphasis will be placed on embryonic pattern formation, meristem structure and function, reproduction, and the role of hormones and environmental signals in development. Lectures will be drawn from the current literature; experimental approaches (genetic, cell biological, biochemical) used to discern developmental mechanisms will be emphasized. Graduate students will present a research proposal in oral and written form; undergraduate students will present and analyze data from the primary literature, and will be responsible for a final paper.

Instructor(s): J. Greenberg Terms Offered: Spring

Prerequisite(s): For undergraduates only: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235.

Equivalent Course(s): DVBI 36100, ECEV 32900, BIOS 23299

#### MGCB 36400. Developmental Mechanisms. 100 Units.

This course provides an overview of the fundamental questions of developmental biology, with particular emphasis on the genetic, molecular and cell biological experiments that have been employed to reach mechanistic answers to these questions. Topics covered will include formation of the primary body axes, the role of local signaling interactions in regulating cell fate and proliferation, the cellular basis of morphogenesis, and stem cells.

Instructor(s): E. Ferguson, R. Fehon Terms Offered: Winter

Prerequisite(s): For undergraduates only: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20189, BIOS 20190, or BIOS 20235. AND CONSENT OF INSTRUCTOR

Equivalent Course(s): DVBI 36400, BIOS 21237

# MGCB 39200. Readings: MGCB. 100 Units.

Reading course in an area of developmental biology of special interest to the student. Must be prearranged with a faculty member and preapproved by the chair of the Curriculum Committee.

#### MGCB 39900. Tutorial: MGCB. 100 Units.

MGCB 47000. Thesis Research: MGCB. 300.00 Units. Laboratory research for senior graduate students.

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#### MGCB 47100. Non-Thesis Rsch: MGCB. 300.00 Units. Laboratory research for first and second year graduate students.

MGCB 70000. Advanced Study: Molecular Genetics & Cell Biology. 300.00 Units.

Advanced Study: Molecular Genetics & Cell Biology



# Committee on Clinical and Translational Science

# Department Website: http://chess.uchicago.edu/CCTS (http://chess.uchicago.edu/CCTS/)

The Committee on Clinical & Translational Science (CCTS) is a freestanding academic unit housed within the Biological Sciences Division. Our mission is to enhance multidisciplinary training in clinical and translational science at the University of Chicago. We seek to offer high-quality curriculum and mentorship to a new generation of researchers who will synthesize social and biological science to significantly advance medical science and practice.

With joint input from CHeSS and the Institute for Translational Medicine, the CCTS mobilizes faculty from across the University of Chicago to enhance course offerings at the university in clinical and translational science. We organize these courses into coherent areas of concentration designed to provide graduate-level trainees, postdoctoral fellows, and junior faculty with state-of-the-art skills in the field. For more information contact Kelsey Bogue, committee administrator at kbogue@bsd.uchicago.edu. (http://chess.uchicago.edu/CCTS/)

Current Areas of Concentration include:

- Comparative Effectiveness Research
- Translational Informatics
- Health Services Research
- Quality & Safety
- Clinical Research
- Community-Based Research
- Global Health
- Pharmacogenomics

In the 'courses' tab there is a list of graduate courses that have been offered over the past two years. Refer to the CCTS section of the CHeSS website for current course offerings and prerequisites for each course:

http://chess.uchicago.edu (http://chess.uchicago.edu/CCTS/)

# Clinical and Translational Science Courses

#### CCTS 31300. Infectious Disease Epidemiology; Networks and Modeling. 100 Units.

Instructor(s): M. David, J. Schneider Terms Offered: Spring 2015

Prerequisite(s): PBHS 30700 or PBHS 30900 or introductory epidemiology or consent of instructor.

## CCTS 33000. Scientists Advancing the Forefront. 000 Units.

In this survey course, leading basic and translational biomedical scientists will review cutting-edge themes that constitute the forefront of medical research. Learners will emerge with a broad understanding of: •

Instructor(s): Erika Claud, Ronald Cohen Terms Offered: Spring Winter. Students who register in fall and spring will earn 50 credit units in spring.

Prerequisite(s): Course open to MS1 students

Note(s): Students should email Kelsey Bogue at kbogue@bsd.uchicago.edu to request permission to enroll. Equivalent Course(s): MOLM 33000, MEDC 33000

# CCTS 38300. Health Economics and Public Policy. 100 Units.

This course analyzes the economics of health and medical care in the United States with particular attention to the role of government. The first part of the course examines the demand for health and medical and the structure and the consequences of public and private insurance. The second part of the course examines the supply of medical care, including professional training, specialization and compensation, hospital competition, and finance and the determinants and consequences of technological change in medicine. The course concludes with an examination of recent proposals and initiatives for health care reform.

Instructor(s): Meltzer, D Terms Offered: Spring

Prerequisite(s): PBPL 20000 or ECON 20000 and one undergraduate course in quantitative research methods (Statistics or Econometrics) or the equivalent or consent of the instructor

Equivalent Course(s): ECON 27700, PBPL 28300, PPHA 38300

#### CCTS 40004. Advanced Clinical Pharmacology I. 50 Units.

This course provides an interactive introduction to fundamental principles of the practice of clinical pharmacology relevant to drug development and personalized therapeutics. Topics include: pharmacokinetics, drug metabolism, protein binding, absorption and renal and hepatic elimination, pharmacodynamics, introduction to modeling methods, evaluation of adverse events, and pre-clinical and clinical elements of drug development.

Instructor(s): N. Pinto, M. Sharma Terms Offered: Autumn

Prerequisite(s): MEDC 30777, equivalent Intro to Pharmacology course, or instructor approval.

#### CCTS 40300. Signal Transduction and Disease. 100 Units.

Topics include receptor ligands, membrane receptor tyrosine kinases and phosphatases, G proteins, proto-oncogenes, signaling pathways, cytoplasmic protein kinases and phosphatases, transcription factors, receptor-nucleus signaling, development and cancer, genetic dissection of signaling pathways, cell growth and cell proliferation, interplay of cell cycle regulators, cell cycle progression and apoptosis, and sensing of hypoxia and mechanical stimuli. The role of signaling in disease is a theme throughout the course.

Instructor(s): N. Dulin Terms Offered: Winter

Equivalent Course(s): MPMM 30600

# CCTS 40400. Health Disparities in Breast Cancer. 100 Units.

Across the globe, breast cancer is the most common women's cancer. In the last two decades, there have been significant advances in breast cancer detection and treatment that have resulted in improved survival rates. Yet, not all populations have benefited equally from these improvements, and there continues to be a disproportionate burden of breast cancer felt by different populations. In the U.S., for example, white women have the highest incidence of breast cancer but African-American women have the highest breast cancer mortality overall. The socioeconomic, environmental, biological, and cultural factors that collectively contribute to these disparities are being identified with a growing emphasis on health disparities research efforts. In this 10-week discussion-based course students will meet twice weekly and cover major aspects of breast cancer disparities.

Instructor(s): E. Dolan, S. Conzen Terms Offered: Winter Prerequisite(s): BIOS 25108

Equivalent Course(s): BIOS 25327, HLTH 20400, GNSE 30408, GNSE 20408, CCTS 20400

#### CCTS 40500. Machine Learning & Advanced Analytics for Biomedicine. 100 Units.

The age of ubiquitous data is rapidly transforming scientific research, and advanced analytics powered by sophisticated learning algorithms is uncovering new insights in complex open problems in biology and biomedicine. The goal of this course is to provide an introductory overview of the key concepts in machine learning, outlining the potential applications in biomedicine. Beginning from basic statistical concepts, we will discuss concepts and implementations of standard and state of the art classification and prediction algorithms, and go on to discuss more advanced topics in unsupervised learning, deep learning architectures, and stochastic time series analysis. We will also cover emerging ideas in data-driven causal inference, and demonstrate applications in uncovering etiological insights from large scale clinical databases of electronic health records, and publicly available sequence and omics datasets. The acquisition of hands-on skills will be emphasized over machine learning theory. On successfully completing the course, students will have acquired enough knowledge of the underlying machinery to intuit and implement solutions to non-trivial data science problems arising in biology and medicine. Instructor(s): Ishanu Chatopadhyay Terms Offered: Winter. Not offered every year

Prerequisite(s): Rudimentary knowledge of probability theory, and basic exposure to scripting languages such as python/R is required. This course does not qualify in the Biological Sciences major.

Equivalent Course(s): CCTS 20500, BIOS 29208

# CCTS 41005. The Making of the 'Good Physician': Virtue Ethics and the Development of Moral Character in Medicine. 100.00 Units.

This multi-disciplinary course draws insights from medicine, sociology, moral psychology, philosophy, ethics and theology to explore answers to the unique challenges that medicine faces in the context of late modernity: How does one become a "good physician" in an era of growing moral pluralism and health care complexity? Students will engage relevant literature from across these disciplines to address issues regarding the legitimate goals of medicine, medical professionalism, the doctor-patient relationship, vocation and calling, the role of religion in medicine, and character development in medical education. The course will first introduce the challenges that moral pluralism in contemporary society presents to the profession of medicine along with the subsequent calls for a renewed pursuit of clinical excellence in today's complex health care system. It will then survey the resurgence of a philosophical discipline (virtue ethics) that has begun to shape contemporary debate regarding what types of "excellences" are needed for a good medical practice dominated by medical science and technology.

# Instructor(s): John Yoon Terms Offered: Autumn Spring Winter

Note(s): This course is limited to those who have been accepted into the Emerging Scholars Cohort in Bioethics (Hyde Park Institute, https://hydeparkinstitute.org/esc). Depending on space availability, other students interested in enrolling will need prior approval from Course instructor(s). This course is a yearlong course with several 2-hour lecture discussions throughout the year, 2 all-day Saturday sessions (Fall/Spring), and an off-site practicum. Registration in Autumn, Winter, and Spring Courses is required. The spring quarter course will be worth 50 units.

Equivalent Course(s): CCTS 21005, MEDC 31005

#### CCTS 41006. Discourse of Islamic Bioethics. 50 Units.

This course is a mentored and directed reading course that introduces students to critical concepts in Islamic theology and law that undergird normative ethical frameworks within Islam and exposes the student to exemplar works from the wide range of Islamic bioethics literature. The first part of the course will focus on the theoretical aspects of the Islamic moral and ethical tradition and cover scholarly contestations regarding Islamic moral theology as they relate to an Islamic bioethics. The latter half of course will focus on the practical aspects of the emerging field by considering research methods for the field and selected literature reviews of Islamic responses to pressing bioethical issues. Read more about the course at chess.uchicago.edu/CCTS

Instructor(s): Aasim Padela Terms Offered: Summer. Not offered every year Prerequisite(s): None

#### CCTS 41008. Health Systems in Low- and Middle-Income Countries. 100 Units.

Strengthening health systems is imperative to achieving lasting improvements in health. This course provides students with a comprehensive overview of health systems in low- and middle-income countries. We will learn key frameworks and tools to analyze, assess and influence health systems in these contexts. The course is organized around core components of health systems, including service delivery, human resources for health, health financing, supply chain systems, governance, community engagement and information systems. Each class draws upon contemporary case studies from a variety of low- and middle-income countries to illustrate challenges, controversies and opportunities in these contexts. We will examine historical, social and political contexts, and key international, national and local stakeholders that influence health systems presently. We will consider the impact of external shocks, such as conflict, natural disasters, and economic and political cortexs, we will situate current challenges in the U.S. health systems in a global context.

Instructor(s): Veena Sriram Terms Offered: Autumn. Not offered every year.

Prerequisite(s): Open to graduate students and third- and fourth-year undergraduate students. First- and second-year undergraduates interested in taking the course may write to the course instructor for permission. Equivalent Course(s): CCTS 21008, HLTH 21008

#### CCTS 42003. Global Health Sciences III: Biological and Social Determinants of Health. 100 Units.

Global health is an interdisciplinary and empirical field, requiring holistic and innovative approaches to navigate an ever-changing environment in the pursuit of health equity. This course will emphasize specific health challenges facing vulnerable populations in low resource settings including in the United States and the large scale social, political, and economic forces that contribute to them through topical events and case studies. Students will study the importance of science and technology, key institutions and stakeholders; environmental impacts on health; ethical considerations in research and interventions; maternal and child health; health and human rights; international legal frameworks and global health diplomacy. Students will gain skills in technical writing as they construct position statements and policy briefs on global health sues of interest. Career opportunities in global health will be explored throughout the course. Instructor(s): C. Olopade, O. Olopade Terms Offered: Spring Winter. This course is offered every Spring quarter on campus and every Winter quarter in Paris.

Prerequisite(s): This course does not meet the requirements for the Biological Sciences major. Equivalent Course(s): CCTS 22003, BIOS 29814

#### CCTS 43007. Clinical and Health Services Research: Methods and Applications. 100 Units.

This course will introduce the interdisciplinary field of clinically-oriented health services research with a focus on policyrelated implications. Through exposure to theoretical foundations, methodologies, and applications, students without significant investigative experience will learn about the design and conduct of research studies. We will cover the integration of research within the stages of translational medicine, and how science conducted across the translational medicine spectrum informs policy through purveyors of clinical services (e.g. physicians, hospitals), government, insurers, and professional societies. We will use the examples of postmenopausal hormone replacement therapy and autologous bone marrow transplantation to illustrate pitfalls in the progression from basic science research to clinical trials leading to diffusion in clinical medicine that can complicate the creation of logical, evidence-based practice guidelines, reimbursement, and clinical practice.

Instructor(s): Greg Ruhnke Terms Offered: Spring Equivalent Course(s): HLTH 21007, CCTS 21007, PBPL 23007, BIOS 29329

#### CCTS 43200. Infectious Disease Epidemiology; Networks and Modeling. 100 Units.

This intermediate-level epidemiology course directed by two infectious disease epidemiologist-physicians will provide an up to date perspective on forgotten, contemporary and emerging infections. The course lectures and readings will provide a rigorous examination of the interactions among pathogens, hosts and the environment that produce disease in diverse populations. In addition to the demographic characteristics and the behaviors of individuals that are associated with a high risk of infection, we will examine complex aspects of the environment as they pertain to disease transmission. These include poverty, globalization, social networks, public health, and racial and ethnic disparities. Methodologic approaches to infectious disease epidemiology that will be covered include traditional study designs, molecular epidemiology, social network analysis, modeling, and network science. Local and global approaches will be applied to case studies from the United States, Asia, and Africa.

Instructor(s): TBN Terms Offered: TBD. Not offered in 2019-20.

Prerequisite(s): Biology majors: Three quarters of a Biological Sciences Fundamentals sequence. HSTD 30700 or HSTD 30910 or introductory epidemiology or consent of instructor

Equivalent Course(s): PBHS 31300, BIOS 25419, MEDC 31300

# CCTS 45000. Introduction to Biostatistics. 100 Units.

This course will provide an introduction to the basic concepts of statistics as applied to the bio-medical and public health sciences. Emphasis is on the use and interpretation of statistical tools for data analysis. Topics include (i) descriptive statistics; (ii) probability and sampling; (iii) the methods of statistical inference; and (iv) an introduction to linear and logistics regression.

Instructor(s): J. Cursio Terms Offered: Summer

Prerequisite(s): 2 quarters of pre-calculus

Note(s): \*In addition to the course, there is a statistical computing workshop.

Equivalent Course(s): PBHS 32100

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#### CCTS 45100. Clinical Epidemiology. 100 Units.

Clinical epidemiology is the "application of epidemiologic principles and methods to problems encountered in clinical medicine." This course introduces the basic principles of epidemiologic study design, analysis and interpretation, with a particular focus on clinical applications. The course includes lectures and discussions based on critical appraisal of significant research articles. The course is primarily intended for, but not restricted to, students with prior clinical training. Public Health Sciences 30700 and 30900 may not both be taken for credit, either will fulfill the basic epidemiology requirement for the MSCP in Public Health Sciences and either will serve as the epidemiology prerequisite for Public Health Sciences 31001.

Instructor(s): B. Chiu, D. Lauderdale Terms Offered: Summer

Prerequisite(s): Introductory statistics recommended, may be taken concurrently.

Equivalent Course(s): PBHS 30700

# CCTS 45200. Fundamentals of Health Services Research: Theory, Methods and Applications. 100 Units.

This course is designed to provide an introduction to the fundamentals of health services research. The basic concepts of health services research will be taught with emphasis on both their social scientific foundations and the methods needed for their practical application to empirically relevant research. Theoretical foundations will draw on principles from economics, sociology, psychology, and the other social sciences. Methodological topics to be covered will include techniques for data collection and analysis, including outcomes measurement, survey methods, large data set research, population-based study design, community based participatory research, research based in clinical settings, qualitative methods, cost-effectiveness analysis, and tools of economic and sociological analysis. The theoretical and empirical techniques taught will emphasize those relevant to the examination of health care costs, quality, and access. Major applications will include: measurement and improvement of health care quality, analysis of health disparities, analysis of health care technology, and analysis of health care systems and markets.

Instructor(s): D. Meltzer, M. H. Chin Terms Offered: Summer Equivalent Course(s): PPHA 47900

# CCTS 45400. Advanced PCOR Methods: Cost Effectiveness and Modeling. 50 Units.

This course is the first module of a two module sequence in Advanced Patient Centered Outcomes Research (PCOR). This module includes an overview of cost effectiveness analysis, modeling (both markov and probabilistic sensitivity analysis), and discrete events and agent based simulation. Students will gain hands on experience with software such as Treeage, Simio, and Net logo. The second course will be taught in Winter Quarter and will cover topics in evidence generation and synthesis. Students and postdocs must contact Kelsey Bogue at kbogue@bsd.uchicago.edu with a CV and unofficial transcript (if current UChicago student) for approval to attend the course. Appropriate prerequisites include SSAD 45600 and PPHA 38300, or other introductory courses in cost effectiveness analysis or statistical modeling.

# CCTS 46001. Fundamentals of Quality Improvement and Patient Safety (QI & PS 101) 25 Units.

Quality Improvement & Patient Safety was designed for faculty and staff at University of Chicago Medicine with the support of the Center for Clinical and Translational Science (CCTS). The course provides an overview of concepts and methodologies for improving the quality and safety of care. Participants will design quality improvement projects using skills learned in class. In addition, UCMC leaders will speak on key topics throughout the course. Participants will become familiar with tools for improving quality of care and service delivery, such as the Model for Improvement and Lean Performance Improvement. Participants will design an actual quality improvement project and complete a personal improvement project using skills learned in the class. Participants will understand the factors impacting the delivery of safe and high quality care in health care organizations such as teamwork, good communication and organization culture. Participants will understand "Systems Thinking" and other key concepts in patient safety such as Human Factors and Reliability. Participants will understand the kay role of QI in today's health care organization and contact Kelsey Bogue at kbogue@bsd.uchicago.edu to register.

Instructor(s): A. Davis, L. Botwinick Terms Offered: Autumn

#### CCTS 47000. Bioinformatics Analysis of High-Throughput Genomics Data. 100 Units.

Biomedical researches all around the world are starting to exploit the power of high-throughput genomics technologies to address an increasingly diverse range of biological problems. The primary bottleneck in using big genomics data including Next Generation Sequencing (NGS), is the bioinformatics; high-throughput genomics data analysis is not trivial and requires access to dedicated High Performing Computing (HPC) infrastructures, to address the CPU intensive and memory demanding analysis tasks. The focus of this course is training researchers on the use of computational technologies and the latest bioinformatics analysis tools, requiered to deal with big genomics data. This training will cover a complete range of technologies and applications from the basics of computational thinking to the large-scale data analysis on Linux and HPC infrastructures. Topics include microarray data analysis using R, the implementation of open source based NGS analysis workflows for RNA-seq data, genomics visualization tools (e.g., IGV, UCSC, circos, etc.) and tools that can perform the most common everyday tasks for bioinformaticians of "omics" data. The course will cover in-depth practical theory and hands-on training.

Instructor(s): Sam Volchenboum, Jorge Andrade, Riyue Bao, Kyle Terms Offered: Autumn Equivalent Course(s): CCTS 27000

#### CCTS 47001. Advanced Community Based Participatory Research (CBPR) Training Program I. 000 Units.

The goal of health-related research is to improve the lives of people in the community studied. In traditional research, the community is not actively involved in designing the projects. Community-based participatory research is a partnership approach to research that equitably involves community members, organizational representatives, and academic researchers in all aspects of the research process. The Advanced CBPR Training Program is designed to help meet the growing need and demand for educational resources that help build the knowledge and skills needed to develop and sustain effective CBPR partnerships. The Program consists of six sessions that are offered on various Fridays throughout the year. Instructor(s): D. Miller, D. Burnet Terms Offered: Autumn. Students must register for two-course sequence in order to receive course credit; CCTS 47001 and CCTS 47002 in Winter Quarter. Students must also register online. Contact CCTS administrator Kelsey Bogue at kbogue@bsd.uchicago.edu for more details.

#### CCTS 47002. Advanced Community Based Participatory Research (CBPR) Training Program II. 25 Units.

The goal of health-related research is to improve the lives of people in the community studied. In traditional research, the community is not actively involved in designing the projects. Community-based participatory research is a partnership approach to research that equitably involves community members, organizational representatives, and academic researchers in all aspects of the research process. The Advanced CBPR Training Program is designed to help meet the growing need and demand for educational resources that help build the knowledge and skills needed to develop and sustain effective CBPR partnerships. The Program consists of six sessions that are offered on various Fridays throughout the year. Instructor(s): D. Miller, D. Burnet Terms Offered: Winter. Students must register for two-course sequence in order to receive course credit; CCTS 47001 and CCTS 47002 in Winter Quarter. Students must also register online. Contact CCTS administrator Kelsey Bogue at kbogue@bsd.uchicago.edu for more details.

#### CCTS 47005. Methods in Health and Biomedical Informatics. 100 Units.

Most Health and Biomedical Informatics (HBMI) Graduate Programs around the country have independently come to the conclusion that the computational methods that informatics graduate students need to be familiar with is too broad and numerous to be addressed by a series of independent courses. Therefore, most programs have created a set of integrated courses that expose the students to a wide variety of informatics methods in short modules. Typically, these required methods series are organized as a series of required courses taken during the first year of graduate study. This course is the result of discussions by Health and Biomedical Informatics researchers and educators from the Chicago Biomedical Informatics Training (CBIT) initiative. This course is designed as the first course of a year-long sequence and is worth 100 units. Registration for the full year is expected.

Instructor(s): S. Volchenboum, D. McClintock, UIC & NU faculty Terms Offered: Autumn. Course location rotates between Northwestern's downtown campus, UChicago, and UIC

Prerequisite(s): Basic understanding of Python programming language; prior or simultaneous enrollment in Health & Biomedical Informatics (HBMI) intro course.

#### CCTS 47006. Methods in Health and Biomedical Informatics II. 100 Units.

Most Health and Biomedical Informatics (HBMI) Graduate Programs around the country have independently come to the conclusion that the computational methods that informatics graduate students need to be familiar with is too broad and numerous to be addressed by a series of independent courses. Therefore, most programs have created a set of integrated courses that expose the students to a wide variety of informatics methods in short modules. Typically, these required methods series are organized as a series of required courses taken during the first year of graduate study. This course is the result of discussions by Health and Biomedical Informatics researchers and educators from the Chicago Biomedical Informatics Training (CBIT) initiative. This course is designed as the second course of a year-long sequence and is worth 100 units. Registration for the full year is expected.

Instructor(s): David McClintock and Samuel Volchenboum; Northwestern and UIC faculty Terms Offered: Winter. Course location rotates between Northwestern's downtown campus, UChicago, and UIC

Prerequisite(s): CCTS 47005 in Autumn Quarter.

# CCTS 47007. Methods in Health and Biomedical Informatics III. 100 Units.

Most Health and Biomedical Informatics (HBMI) Graduate Programs around the country have independently come to the conclusion that the computational methods that informatics graduate students need to be familiar with is too broad and numerous to be addressed by a series of independent courses. Therefore, most programs have created a set of integrated courses that expose the students to a wide variety of informatics methods in short modules. Typically, these required methods series are organized as a series of required courses taken during the first year of graduate study. This course is the result of discussions by Health and Biomedical Informatics researchers and educators from the Chicago Biomedical Informatics Training (CBIT) initiative. This course is designed as the third course of a year-long sequence and is worth 100 units. Registration for the full year is expected.

Instructor(s): David McClintock and Samuel Volchenboum; Northwestern and UIC faculty Terms Offered: Spring. Course location rotates between Northwestern's downtown campus, UChicago, and UIC Prerequisite(s): CCTS 47005 in Autumn Quarter and CCTS 47006 in Winter Quarter.

# CCTS 47100. Bioinformatics Analysis of Integrative 'Omics Data. 100 Units.

The workshop will focus on the integration of multiple 'omic/clinical data sets to answer complex questions on Biomedical research. Strong focus will be placed on the use of NGS based ChIP-seq analysis pipeline and its integration with gene expression and clinical information.

Equivalent Course(s): CCTS 27100



# Committee on Computational Neuroscience

# Chair

David Freedman, Neurobiology

# Professors

- Yali Amit, Statistics
- Ed Awh, Psychology
- Sliman Bensmaia, Organismal Biology and Anatomy
- Jack Cowan, Mathematics
- Jean Decety, Psychology
- Ruth Anne Eatock, Neurobiology
- David Freedman, Neurobiology
- William (Bill) Green, Neurobiology
- John Goldsmith, Linguistics
- Melina Hale, Organismal Biology and Anatomy
- Christian Hansel, Neurobiology
- Nicholas Hatsopoulos, Organismal Biology and Anatomy
- Leslie Kay, Psychology
- Yamuna Krishnan, Chemistry
- Daniel Margoliash, Organismal Biology and Anatomy
- John Maunsell, Neurobiology
- Howard Nusbaum, Psychology
- Eduardo Perozo, Biochemistry and Molecular Biology
- Brian Prendergast, Psychology
- S. Murray Sherman, Neurobiology
- Steven Shevell, Psychology
- V. Leo Towle, Neurology
- Wim van Drongelen, Pediatrics
- Ed Vogel, Psychology
- Xiaoxi Zhuang, Neurobiology

Associate Professors

- Jason MacLean, Neurobiology
- Stephanie Palmer, Organismal Biology and Anatomy
- Wei Wei, Neurobiology

Assistant Professors

- Stephanie Cacioppo, Psychiatry and Behavioral Neuroscience
- Narayanan (Bobby) Kasthuri, Neurobiology
- Matthew Kaufman, Organismal Biology and Anatomy
- Mark Sheffield, Neurobiology

The University of Chicago has a long tradition of innovative research in the neurosciences. K. C. Cole developed the voltage clamp here, Stephen Polyak and C. J. Herrick did pioneering work on the anatomy of the retina and brain, and Jack Cowan and Hugh Wilson were among the first to develop mathematical analyses of the dynamics of cortical neurons using non linear dynamics. This tradition is continued in the Committee on Computational Neuroscience, which draws on faculty from many departments in all four graduate divisions in the University to create a multidisciplinary program in neuroscience. Computational neuroscience is a relatively new area of inquiry that is concerned with how components of animal and human nervous systems interact to produce behaviors. Using quantitative and modeling methods, the interdisciplinary approach of computational neuroscience seeks to understand the function of the nervous system, natural behaviors and cognitive processes and to design human made devices that duplicate behaviors. Course work in computational neuroscience prepares students for research in neurobiology, psychology, or in the mathematical or engineering sciences. Graduates from this program move to traditional academic careers, to careers in biomedical research or engineering, or to opportunities in the corporate world.

#### Graduate Degrees

Students with undergraduate degrees in biology or psychology, any of the quantitative sciences or any of the engineering disciplines are welcome to apply for graduate study. Computational neuroscience is inherently interdisciplinary, and most students doing graduate work in this area will have strengths in one of the relevant areas and weaknesses in others. Program requirements in the committee are designed to correct background deficiencies, so students with uneven backgrounds should not hesitate to apply. A year of college level calculus is an absolute prerequisite. Ideally, applicants should have some collegiate level course work in biology (optimally including an introductory neurobiology course), an introductory psychology course, and some mathematics (such as linear algebra and elementary differential equations) beyond calculus. Students who have not had prior exposure to linear algebra and differential equations may be asked to take appropriate courses in these areas before taking the mathematics sequence within the computational neuroscience curriculum.

#### Doctor of Philosophy

Students seeking the Ph.D. in computational neuroscience must take the nine formal courses in the computational neuroscience curriculum, and enroll for at least nine quarters of research. The formal courses are typically taken during the first two years and arranged into three themes. The neuroscience theme presents the basic concepts and phenomena in neuroscience. The mathematics theme presents the quantitative techniques required for a modern analysis of the nervous system and behavior. The courses in this theme have prior exposure to linear algebra and differential equations as a prerequisite. The computational neuroscience theme illustrates how quantitative methodologies are used to understand neurons and behavior. The courses in this theme have completion of a year of calculus as a prerequisite. Students must complete two laboratory rotations which can be started in the first year. Students can also take graduate courses offered by the Departments of Computer Science, Linguistics, Mathematics, Psychology and Statistics, or from any of the graduate programs in the Division of the Biological Sciences. Please consult the listings elsewhere in these Announcements or on the University of Chicago web page for current lists of such courses. Courses in engineering applications of computational neuroscience are also available through a limited reciprocal course arrangement with the Department of Biomedical Engineering at the Illinois Institute of Technology. Students must pass a qualifying examination with both written and oral components at the end of their second year. In addition to satisfying course requirements, students must write and defend a dissertation based on original and publishable research. Students are expected to participate in the ongoing computational neuroscience seminar series, as well as occasional workshops, that are conducted during their stay in the program.

#### M.D./Ph.D. Program

Students interested in earning both an M.D. and a Ph.D. in computational neuroscience at the University of Chicago can follow one of two routes. The first is to apply to the Medical Science Training Program (MSTP) within the Pritzker School of Medicine. The MSTP training grant provides support for both the M.D. and Ph.D. components of the training. Second, a student in the Pritzker School of Medicine may take a leave of absence from the School of Medicine after the first two, preclinical years of medical training and apply to the Ph.D. program in the normal fashion. The student would then return to finish the two clinical years of medical studies after completing the Ph.D. Several of the preclinical medical school courses may be used as electives in the computational neuroscience Ph.D. program. Students with an undergraduate degree in one of the engineering disciplines can earn an M.D. through the Pritzker School of Medicine and a Ph.D. in Biomedical Engineering through the Department of Biomedical Engineering at the Illinois Institute of Technology (which is located approximately three miles north of the University of Chicago Campus). They are able to emphasize neural engineering in the Biomedical Engineering ht.D. program and take courses in the Committee on Computational Neuroscience.

#### Admission to Graduate Programs

Admission to the Committee on Computational Neuroscience is coordinated through the Neuroscience Cluster within the Division of the Biological Sciences. The most recent admissions policies, including an on-line application, can be viewed at https://biosciences.uchicago.edu/admissions. Students preparing an application must submit transcripts of their undergraduate and prior graduate work, recent test scores from the general Graduate Record Exam, and three letters of recommendation under separate cover. Foreign applicants from non-English speaking nations must also submit TOEFL scores with their application materials. Applications are due by December 1st for students beginning their studies in the following autumn quarter.

#### Financial Aid

Students enrolled in the Ph.D. program receive financial support in the form of a stipend and tuition payments as long as they remain in good standing. Students are encouraged to apply for individual fellowships from the National Science Foundation or other sources.

#### Research Opportunities

Unparalleled research opportunities and facilities are available through the facilities and faculty on the University of Chicago campus, at the Argonne National Laboratory, the Illinois Institute of Technology campus and corporate partners. Research interests of faculty in the Committee on Computational Neuroscience can be accessed through the Neuroscience web page at http://neuroscience.uchicago.edu/faculty/. Ongoing research topics range from work at the molecular level to studies in cognitive neuroscience. These projects involve modern methods of recording and imaging the activities of individual neurons, populations of neurons and human brain regions. Quantitative approaches currently utilized by faculty and students include those derived from non-linear dynamics, large scale simulations of neural activity, time series analysis, and pattern recognition. Research projects address basic problems in neuroscience using approaches that range from

molecular neurobiology to cognitive neuroscience, biomedical applications such as the construction of neural prostheses and the control of epilepsy, and technological applications to computational vision and language.

# Computational Neuroscience Courses

# CPNS 30000. Cellular Neurobiology. 100 Units.

This course is concerned with the structure and function of the nervous system at the cellular level. The cellular and subcellular components of neurons and their basic membrane and electrophysiological properties will be described. Cellular and molecular aspects of interactions between neurons will be studied. This will lead to functional analyses of the mechanisms involved in the generation and modulation of behavior in selected model systems. Instructor(s): R. A. Eatock, X. Zhuang, D. McGehee Terms Offered: Winter Environment Course(c), MURD 21900.

Equivalent Course(s): NURB 31800

# CPNS 30107. Behavioral Neuroscience. 100 Units.

This course provides an introduction to neuroethology, examining brain activity relative to behaviors and organisms evaluated from an adaptive and evolutionary perspective. It starts with a brief introduction to classical ethology, and then develops a series of example animal model systems. Both invertebrate and vertebrate models are considered although there is a bias towards the latter. Many of these are "champion" species. There is a heavier demand for reading original data papers than typical in introductory graduate level courses. An integral part of the course is a series of assignments where you develop grant proposals describing novel science experiments in the animal models, thereby challenging your knowledge of the material and teaching aspects of scientific writing. In recent years there has been more computational material presented. The course is not available to undergraduates without prior approval of the instructor.

Instructor(s): D. Margoliash Terms Offered: Spring

Note(s): The course is not available to undergraduates without prior approval of the instructor.

Equivalent Course(s): NURB 30107, PSYC 40107

# CPNS 30116. Survey of Systems Neuroscience. 100 Units.

This lab-centered course teaches students the fundamental principles of vertebrate nervous system organization. Students learn the major structures and the basic circuitry of the brain, spinal cord and peripheral nervous system. Somatic, visual, auditory, vestibular and olfactory sensory systems are presented in particular depth. A highlight of this course is that students become practiced at recognizing the nuclear organization and cellular architecture of many regions of brain in rodents, cats and primates.

Instructor(s): S. Bensmaia Terms Offered: Autumn

Prerequisite(s): NSCI 20130. For Biological Sciences majors: Three quarters of a Biological Sciences fundamentals sequence

Equivalent Course(s): NURB 31600, BIOS 24208, NSCI 23500, ORGB 32500

# CPNS 31000. Mathematical Methods for Biological Sciences I. 100 Units.

This course builds on the introduction to modeling course biology students take in the first year (BIOS 20151 or 152). It begins with a review of one-variable ordinary differential equations as models for biological processes changing with time, and proceeds to develop basic dynamical systems theory. Analytic skills include stability analysis, phase portraits, limit cycles, and bifurcations. Linear algebra concepts are introduced and developed, and Fourier methods are applied to data analysis. The methods are applied to diverse areas of biology, such as ecology, neuroscience, regulatory networks, and molecular structure. The students learn computations methods to implement the models in MATLAB.

Instructor(s): D. Kondrashov Terms Offered: Autumn. L.

Prerequisite(s): BIOS 20151 or BIOS 20152 or equivalent quantitative experience by consent of instructor, and three quarters of a Biological Sciences Fundamentals sequence or consent of the instructor. Equivalent Course(s): PSYC 36210, BIOS 26210

#### CPNS 31100. Mathematical Methods for Biological Sciences II. 100 Units.

This course is a continuation of BIOS 26210. The topics start with optimization problems, such as nonlinear least squares fitting, principal component analysis and sequence alignment. Stochastic models are introduced, such as Markov chains, birth-death processes, and diffusion processes, with applications including hidden Markov models, tumor population modeling, and networks of chemical reactions. In computer labs, students learn optimization methods and stochastic algorithms, e.g., Markov Chain, Monte Carlo, and Gillespie algorithm. Students complete an independent project on a topic of their interest.

Instructor(s): D. Kondrashov Terms Offered: Winter. L. Prerequisite(s): BIOS 26210 or equivalent. Equivalent Course(s): BIOS 26211, PSYC 36211

#### CPNS 31358. Simulation, Modeling, and Computation in Biophysics. 100 Units.

This course develops skills for modeling biomolecular systems. Fundamental knowledge covers basic statistical mechanics, free energy, and kinetic concepts. Tools include molecular dynamics and Monte Carlo simulations, random walk and diffusion equations, and methods to generate random Gaussian and Poisson distributors. A term project involves writing a small program that simulates a process. Familiarity with a programming language or Mathlab would be valuable. Instructor(s): B. Roux Terms Offered: Winter

Prerequisite(s): BIOS 20200 and BIOS 26210-26211, or consent from instructor Equivalent Course(s): BIOS 21358, BCMB 31358

# CPNS 31900. Intro To Faculty Research. 100 Units.

First-year students in Neurobiology and Computational Neuroscience are required to attend this chalk talk series where faculty members looking for rotating students present the research conducted in their labs.

Terms Offered: Autumn

Equivalent Course(s): NURB 32000

# CPNS 32111. Modeling and Signal Analysis for Neuroscientists. 100 Units.

The course provides an introduction into signal analysis and modeling for neuroscientists. We cover linear and nonlinear techniques and model both single neurons and neuronal networks. The goal is to provide students with the mathematical background to understand the literature in this field, the principles of analysis and simulation software, and allow them to construct their own tools. Several of the 90-minute lectures include demonstrations and/or exercises in Matlab. Instructor(s): W. van Drongelen Terms Offered: Spring. L.

Prerequisite(s): Undergraduates: Biology Major - BIOS 26210 and 26211, or consent of instructor. Neuroscience Major - NSCI 20130, BIOS 26210 and 26211, or consent of instructor.

Equivalent Course(s): BIOS 24408, NSCI 24000

#### CPNS 32300. Molecular Principles of Nervous System Development. 100 Units.

This elective course provides an overview of the fundamental questions in developmental neurobiology. It is based on primary research papers and highlights key discoveries in vertebrate and invertebrate animals that advanced our understanding of nervous system development. Topics covered, among others, will include neural stem cells, neuronal specification and terminal differentiation, and circuit assembly. Dogmas and current debates in developmental neurobiology will be discussed, aiming to promote critical thinking about the field. This advanced-level course is open to upper level undergraduate and graduate students and combines lectures, student presentations, and discussion sections. Neuroscience major undergrads need to have completed the Fundamentals of Neuroscience sequence.

Instructor(s): E. Grove, P. Kratsios Terms Offered: Spring

Prerequisite(s): For undergrads: NSCI 20110, 20120, 20130 and a basic understanding of Genetics, or 'BIOS

20187' (Fundamentals of Genetics) is recommended, but not required.

Equivalent Course(s): DVBI 32300, NSCI 22300, NURB 32300

# CPNS 33200. Computational Approaches to Cognitive Neuroscience. 100 Units.

This course is concerned with the relationship of the nervous system to higher order behaviors (e.g., perception, object recognition, action, attention, learning, memory, and decision making). Psychophysical, functional imaging, and electrophysiological methods are introduced. Mathematical and statistical methods (e.g. neural networks and algorithms for studying neural encoding in individual neurons and decoding in populations of neurons) are discussed. Weekly lab sections allow students to program cognitive neuroscientific experiments and simulations.

Instructor(s): N. Hatsopoulos Terms Offered: Winter

Prerequisite(s): For Neuroscience Majors: NSCI 20110, NSCI 20130, BIOS 26210, and knowledge using Matlab, or consent of instructor.

Equivalent Course(s): ORGB 34650, NSCI 23600, PSYC 34410, BIOS 24232

## CPNS 34133. Neuroscience of Seeing. 100 Units.

This course focuses on the neural basis of vision, in the context of the following two questions: 1. How does the brain transform visual stimuli into neuronal responses? 2. How does the brain use visual information to guide behavior? The course covers signal transformation throughout the visual pathway, from retina to thalamus to cortex, and includes biophysical, anatomical, and computational studies of the visual system, psychophysics, and quantitative models of visual processing. This course is designed as an advanced neuroscience course for undergraduate and graduate students. The students are expected to have a general background in neurophysiology and neuroanatomy.

Instructor(s): W. Wei, J. Maunsell, M. Sherman, S. Shevell Terms Offered: Autumn

Prerequisite(s): NSCI 20111 or BIOS 24110 or consent of instructor

Equivalent Course(s): PSYC 34133, NSCI 22400, PSYC 24133, BIOS 24133, NURB 34133

# CPNS 34231. Methods in Computational Neuroscience. 100 Units.

Topics include (but are not limited to): relating neural data to behavior, Signal Detection theory, models of vision and artificial neural networks, Information Theory, Generalized Linear Models, dimensionality reduction, classification, and clustering.

Instructor(s): S. Bensmaia, D. Freedman, M. Kaufman Terms Offered: Winter. L.

Prerequisite(s): For Neuroscience Majors: NSCI 20130, BIOS 26210 and BIOS 26211 which must be taken concurrently, or consent of instructor.

Equivalent Course(s): NSCI 23700, BIOS 24231, PSYC 24231

#### CPNS 34600. Neurobiology of Disease I. 100 Units.

This graduate-level, 100-unit course has an unusual format aimed at fostering lively discussion and interaction. There will be 10 meetings spread at 1-month intervals over the winter, spring and fall quarters. Each meeting will focus on a topic such as Epilepsy, Alzheimer's, or Autism, and feature a brief introduction (by a student) and chalk talks by two faculty, one on clinical aspects of the disease and one on basic research approaches. The student's grade is based on the presentation at one meeting and participation across all meetings.

Instructor(s): C. Gomez, X. Zhuang Terms Offered: Autumn Spring Winter

Note(s): Class meets on the 3rd Wednesday of the month; 100 credits given after 3 quarters attendance. Equivalent Course(s): NURB 34600

# CPNS 35600. Theoretical Neuroscience: Statistics and Information Theory. 100 Units.

This course begins with an introduction to inference and statistical methods in data analysis. We then cover the two main sections of the course: I) Encoding and II) Decoding in single neurons and neural populations. The encoding section will cover receptive field analysis (STA, STC and non-linear methods such as maximally informative dimensions) and will explore linear-nonlinear-Poisson models of neural encoding as well as generalized linear models alongside newer population coding models. The decoding section will cover basic methods for inferring stimuli or behaviors from spike train data, including both linear and correlational approaches to population decoding. The course will use examples from real data (where appropriate) in the problem sets which students will solve using MATLAB.

Prerequisite(s): Prior exposure to basic calculus and probability theory, CPNS 35500 or instructor consent. Equivalent Course(s): STAT 42600, ORGB 42600

# CPNS 38800. Neuroscience Ethics. 100 Units.

Neuroscience Senior Ethics class: compulsory for Neurobiology and Computational Neuroscience PhD students in their 4th year (to fulfill BSD ethics requirement). The course, directed by the graduate programs chairs, will consist of 4 sessions with invited speakers to be held in May and June.

Instructor(s): D. McGehee Terms Offered: Winter

Equivalent Course(s): NURB 38800

# CPNS 39900. Readings: Computational Neuroscience. 300.00 Units.

Subject matter for individual tutorial-based study is selected through prior consultation and is given under the guidance of a faculty member. The student and faculty member must indicate at time of registration whether the course will be taken on a letter grade or pass/fail basis.

#### CPNS 40100. Research: Computational Neuroscience. 300.00 Units.

The student conducts original investigation under the direction of a faculty member. The research is presented and defended as a dissertation in candidacy for the degree of Doctor of Philosophy.

# CPNS 42900. Mathematical Modeling of Large-Scale Brain Activity I. 100 Units.

An independent study in mathematical modeling. Equivalent Course(s): MATH 42900

# CPNS 42901. Mathematical Modeling of Large-Scale Brain Activity II. 100 Units.

Independent study in Mathematical Modeling of Large-Scale Brain Activity 2. Equivalent Course(s): MATH 42901

#### CPNS 70000. Advanced Study: Computational Neuroscience. 300.00 Units.

Advanced Study: Computational Neuroscience



# Committee on Development, Regeneration, and Stem Cell Biology

# Chair

Ilaria Rebay

# Professors

- John Cunningham, Pediatrics
- Glyn Dawson, Pediatrics
- Wei Du, Ben May Department for Cancer Research
- Richard Fehon, Molecular Genetics & Cell Biology
- Edwin Ferguson, Molecular Genetics & Cell Biology
- Yoav Gilad, Human Genetics
- Michael Glotzer, Molecular Genetics & Cell Biology
- William Green, Neurobiology
- Elizabeth Grove, Neurobiology
- Robert Ho, Organismal Biology & Anatomy
- David Kovar, Molecular Genetics & Cell Biology
- Bruce Lahn, Human Genetics
- Victoria Prince, Organismal Biology & Anatomy
- Clifton Ragsdale, Neurobiology
- Ilaria Rebay, Ben May Department for Cancer Research
- Marsha Rosner, Ben May Department for Cancer Research
- Nancy Schwartz, Pediatrics
- Neil Shubin, Organismal Biology & Anatomy
- Kevin White, Human Genetics

# Associate Professors

- Sally Horne-Badovinac, Molecular Genetics & Cell Biology
- Akira Imamoto, Ben May Department for Cancer Research
- Barbara Kee, Pathology
- Kay Macleod, Ben May Department for Cancer Research
- Jocelyn Malamy, Molecular Genetics & Cell Biology
- Ivan Moskowitz, Pediatrics
- Ed Munro, Molecular Genetics & Cell Biology
- Urs Schmidt-Ott, Organismal Biology & Anatomy

# Assistant Professors

- Jill de Jong, Pediatrics
- Ellie Heckscher, Molecular Genetics & Cell Biology
- Paschalis Kratsios, Neurobiology
- Timothy Sanders, Pediatrics
- Xiaoyang Wu, Ben May Department for Cancer Research

# Emeritus Faculty

- Martin Gross, Pathology
- Robert Haselkorn, Molecular Genetics & Cell Biology
- Anthony Mahowald, Molecular Genetics & Cell Biology
- Manfred Ruddat, Ecology & Evolution

# Program of Study

# First Year

The first year of graduate study is spent in coursework, independent reading, and exploratory research. Three courses constitute a full schedule for each quarter of the first year; the schedule typically includes three lecture courses or two lecture courses and a research rotation. Students are required to undertake laboratory rotations in at least three different laboratories

before beginning their dissertation research. These rotations are performed during the first academic year, one each quarter. Rotations can also be performed during Summer Quarter.

Seminars given by invited speakers are regularly offered and students are strongly urged to attend. A separate series of meetings is presented in the Autumn and Winter quarters by faculty to introduce students to their research.

At the end of June, students take the Preliminary Examination as a first step towards candidacy for the Ph.D. The exam consists of the preparation of a written research proposal in the field of developmental biology and an oral defense of that proposal.

#### Second year

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Coursework will continue during the second year as needed to fulfill the requirements. Students choose research advisors by July 1 of the Summer Quarter after the first year, and begin developing a research project. By early Autumn Quarter, each student assembles a thesis committee. The student then prepares a written proposal for dissertation research and defends this proposal before the doctoral committee. This defense constitutes Part II of the candidacy examination. This examination must be completed by the end of Autumn Quarter of the second academic year.

#### Advanced years

After the qualifying exam, the student works full time on thesis research, although the faculty urges students to continue to take advantage of the advanced courses and seminars that are offered. Finally, each graduating student writes a dissertation describing his or her research, presents the work in a public seminar, and defends it before their doctoral committee.

#### Evaluation

Throughout their term as graduate students, students are expected to have frequent informal conversations with professors in their courses, their research advisor, and members of their doctoral committees. In this way, students can obtain frequent appraisals of their progress and constructive advice.

Formal evaluation of each student's progress continues every academic year. In the first year and a half, the evaluation is based on the student's performance in courses, laboratory rotations, the preliminary examination, and the qualifying examination. In later years, the research advisor and doctoral committee oversee the student's dissertation research progress; a report is submitted after the yearly meeting that becomes part of the student's permanent file. If there are any deficiencies in performance, the student will receive a letter describing those deficiencies and making suggestions about how to remedy them.

#### Admissions

For information about applying to our graduate program, please visit our website at http://molbio.bsd.uchicago.edu. (http://collegecatalog.uchicago.edu/graduate/committeeondevelopmentalbiology/%20https://biosciences.uchicago.edu/ programs/development-regeneration-and-stem-cell-biology/)

## Requirements for the Ph.D. Degree

A Ph.D. candidate must fulfill certain formal course work requirements, pass the preliminary and qualifying examinations, and present a satisfactory dissertation describing the results of original research.

The committee expects a knowledge of and proficiency in contemporary developmental biology as well as auxiliary fields of molecular biology, cell biology, and genetics. This requirement will normally be met by fulfilling the formal course work listed below. However, courses taken at other institutions, in other departments, or as part of the medical school curriculum may substitute for required committee courses with the approval of the curriculum committee.

#### Formal Course Work

The Biological Sciences Division requirement of nine graded course units may be met by registering for a combination of formal courses and up to two graded laboratory rotations. During the first year of graduate work students ordinarily complete one course in molecular biology, one in cell biology, one in genetics, and three courses in developmental biology.

# Developmental Biology Courses

# DVBI 33850. Evolution and Development. 100 Units.

The course will provide a developmental perspective on animal body plans in phylogenetic context. The course will start with a few lectures, accompanied by reading assignments. Students will be required to present a selected research topic that fits the broader goal of the course and will be asked to submit a referenced written version of it after their oral presentation. Grading will be based on their presentation (oral and written) as well as their contributions to class discussions. Prerequisite(s): Advanced undergraduates may enroll with the consent of the instructor.

Instructor(s): U. Schmidt-Ott Terms Offered: Autumn

Prerequisite(s): Advanced undergraduates may enroll with the consent of the instructor. Equivalent Course(s): ORGB 33850, BIOS 22306, EVOL 33850

#### DVBI 35600. Vertebrate Development. 100 Units.

This advanced-level course combines lectures, student presentations, and discussion sessions. It covers major topics on the developmental biology of embryos (e.g. formation of the germ line, gastrulation, segmentation, nervous system development, limb pattering, organogenesis). We make extensive use of the primary literature and emphasize experimental approaches including embryology, genetics, and molecular genetics.

Instructor(s): V. Prince, P. Kratsios. Terms Offered: Spring

Prerequisite(s): For Biological Sciences majors: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20189 or BIOS 20190

Equivalent Course(s): BIOS 21356, MGCB 35600, ORGB 33600

# DVBI 36100. Plant Development and Molecular Genetics. 100 Units.

Genetic approaches to central problems in plant development will be discussed. Emphasis will be placed on embryonic pattern formation, meristem structure and function, reproduction, and the role of hormones and environmental signals in development. Lectures will be drawn from the current literature; experimental approaches (genetic, cell biological, biochemical) used to discern developmental mechanisms will be emphasized. Graduate students will present a research proposal in oral and written form; undergraduate students will present and analyze data from the primary literature, and will be responsible for a final paper.

Instructor(s): J. Greenberg Terms Offered: Spring

Prerequisite(s): For undergraduates only: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235.

Equivalent Course(s): MGCB 36100, ECEV 32900, BIOS 23299

#### DVBI 36200. Stem Cells and Regeneration. 100 Units.

The course will focus on the basic biology of stem cells and regeneration, highlighting biomedically relevant findings that have the potential to translate to the clinic. We will cover embryonic and induced pluripotent stem cells, as well as adult stem cells from a variety of systems, both invertebrate and vertebrates.

Instructor(s): E. Ferguson, V. Prince, J. De Jong, X. Wu, J. Duan, J. LaBelle Terms Offered: Spring Prerequisite(s): For undergraduates only: completion of a Biological Sciences fundamentals sequence Equivalent Course(s): BIOS 21416

# DVBI 36400. Developmental Mechanisms. 100 Units.

This course provides an overview of the fundamental questions of developmental biology, with particular emphasis on the genetic, molecular and cell biological experiments that have been employed to reach mechanistic answers to these questions. Topics covered will include formation of the primary body axes, the role of local signaling interactions in regulating cell fate and proliferation, the cellular basis of morphogenesis, and stem cells.

Instructor(s): E. Ferguson, R. Fehon Terms Offered: Winter

Prerequisite(s): For undergraduates only: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20189, BIOS 20190, or BIOS 20235. AND CONSENT OF INSTRUCTOR

Equivalent Course(s): MGCB 36400, BIOS 21237

# DVBI 32000. Quantitative Analysis of Biological Dynamics. 100 Units.

The basic focus of the course will be quantitative approaches to understanding organization and dynamics at the molecular, subcellular and cellular levels, and will rest on three pillars - modern imaging and image analysis, quantitative analysis and presentation of data, mathematical modeling and computer simulations. Instructor(s): Edwin Munro; Michael Rust Terms Offered: Spring

Equivalent Course(s): MGCB 32000

#### DVBI 32550. Quantitative Analysis of Biological Dynamics II. 100 Units.

This is a workshop style course in which students will work closely with instructors and TAs to implement mathematical/ computational approaches to address specific research problems of interest to individual students. The course is open to all students who have taken MGCB/DRSB 32000 or its equivalent, or who have otherwise acquired a basic working knowledge of one or more programming languages (e.g. R, Matlab, Python). The course will function as follows: prior to enrollment, each interested student will meet with the course instructors to discuss an open scientific question they wish to address using mathematical/computational approaches. The course will begin with a short presentation from each student describing the problem they propose to study, followed by a discussion with the rest of the students and the course instructors about possible approaches. The course and TAs will then meet one-on-one with students over the course of the quarter to help students implement the proposed strategies and adapt to challenges that emerge through this process. Students will reconvene weekly as a group to report on their progress and discuss alternative approaches.

Instructor(s): E. Munro, M. Rust Terms Offered: Spring. Offered in alternating years beginning Spring 2020. Prerequisite(s): MGCB 32000, DVBI 32000

Equivalent Course(s): MGCB 32500

# Distribution Courses

#### DVBI 31200. Molecular Biology I. 100 Units.

Nucleic acid structure and DNA topology; methodology; nucleic-acid protein interactions; mechanisms and regulation of transcription in eubacteria, and of replication in eubacteria and eukaryotes; mechanisms of genome and plasmid segregation in eubacteria.

Instructor(s): L. Rothman-Denes Terms Offered: Winter Equivalent Course(s): MGCB 31200, BCMB 31200

#### DVBI 31300. Molecular Biology-II. 100 Units.

The content of this course covers the mechanisms and regulation of eukaryotic gene expression at the transcriptional and post-transcriptional levels. Our goal is to explore research frontiers and evolving methodologies. Rather than focusing on the elemental aspects of a topic, the lectures and discussions highlight the most significant recent developments, their implications and future directions.

Instructor(s): J. Staley, A. Ruthenburg, H.C. Lee Terms Offered: Spring

Prerequisite(s): Molecular Biology I (MGCB 31200) or by special permission of an instructor Equivalent Course(s): MGCB 31300, BCMB 31300

#### DVBI 31400. Genetic Analysis of Model Organisms. 100 Units.

Fundamental principles of genetics discussed in the context of current approaches to mapping and functional characterization of genes. The relative strengths and weaknesses of leading model organisms are emphasized via problem-solving and critical reading of original literature.

Equivalent Course(s): HGEN 31400, BCMB 31400, MGCB 31400

#### DVBI 31600. Cell Biology I. 100 Units.

Eukaryotic protein traffic and related topics, including molecular motors and cytoskeletal dynamics, organelle architecture and biogenesis, protein translocationand sorting, compartmentalization in the secretory pathway, endocytosis and exocytosis, and mechanisms and regulation of membrane fusion.

Instructor(s): A. Turkewitz, B. Glick Terms Offered: Autumn Equivalent Course(c): HCEN 21600, PCMP 21600, MCCP 2160

Equivalent Course(s): HGEN 31600, BCMB 31600, MGCB 31600

#### DVBI 31700. Cell Biology II. 100 Units.

This course covers the mechanisms with which cells execute fundamental behaviors. Topics include signal transduction, cell cycle progression, cell growth, cell death, cancer biology, cytoskeletal polymers and motors, cell motility, cytoskeletal diseases, and cell polarity. Each lecture will conclude with a dissection of primary literature with input from the students. Students will write and present a short research proposal, providing excellent preparation for preliminary exams. Instructor(s): M. Glotzer, D. Kovar Terms Offered: Winter

Prerequisite(s): For undergraduates: Three quarters of a Biological Sciences Fundamentals sequence. Equivalent Course(s): BCMB 31700, BIOS 21238, MGCB 31700



# Department of Ecology and Evolution

Chair: Joy Bergelson

Director of Graduate Studies: Stefano Allesina

Professors

- Stefano Allesina
- Joy Bergelson
- Luis Bettencourt
- Gregory Dwyer
- Martin Kreitman
- Manyuan Long
- Mercedes Pascual
- Catherine Pfister
- Trevor D. Price
- John Reinitz, Statistics
- Joseph Thornton
- J. Timothy Wootton
- Chung-I Wu

Associate Professors

- Sarah Cobey
- Marcus Kronforst
- Stephen Pruett-Jones

Assistant Professors

- Meredith Cenzer
- Matthias Steinruecken

**Emeritus Faculty** 

- Jerry Coyne
- Richard R. Hudson
- Wen-Hsiung Li
- Manfred D.E. Ruddat

Research Associate (Associate Professor)

Michael Z. Ludwig

The Department of Ecology and Evolution provides training for research and teaching in the ecology, evolution and behavior of whole organisms, at the levels of the organism, the population, and the ecosystem. The research interests of our faculty include molecular evolution, population genetics, quantitative genetics, animal behavior, plant and animal ecology, evolutionary theory, systematics, paleontology, and related subjects. Individual levels of study range from molecules to communities. A common theme is the conduct of studies in a rigorous ecological and conceptual context, and the faculty share an interest in the architecture of populations, species and communities.

The department stresses scientific breadth and the interrelations between various specialized fields. Students are encouraged to approach basic biological problems with the most appropriate techniques: biophysical, biochemical, mathematical, physiological, or organismal. Departmental laboratories are equipped for a wide variety of contemporary research methods. Courses in other programs may be taken for credit in ecology and evolution for example, in the Departments of Organismal Biology and Anatomy, Biochemistry and Molecular Biology, Molecular Genetics and Cell Biology, Statistics, Geophysical Sciences, Anthropology, and Chemistry. Many students in the Department of Ecology and Evolution participate in interdepartmental programs in genetics, cell biology, developmental biology, population biology, theoretical biology, and evolutionary biology, and in these programs dissertation research may be co-sponsored by faculty from different departments. Collaboration is also maintained with the Field Museum and the Shedd Aquarium for students interested in research in systematics, taxonomy, and evolutionary biology, and with the Brookfield Zoo for basic research in conservation and behavior involving zoo animals. New opportunities are available for research and education at the Woods Hole Marine Biological Laboratory as well as the Warren Woods Ecological Field Station (http://pondside.uchicago.edu/ee/facilities/WW.shtml/). Recent students in the department have performed field research in Central and South America, Asia, Australasia, Northern Europe, and other regions of the earth.

## Program of Study

Most students in the Department of Ecology and Evolution complete their Ph.D. program in 5-6 years, though students entering with a master's degree may finish in slightly less time. A student advisory committee advises all incoming and second year students on academic and research concerns. The first and second years consist largely of course work and individual reading courses, aiming toward successful completion of an oral general knowledge examination by the spring quarter of the first year, supervised by the student advisory committee. The student and faculty advisor, in consultation with the director of graduate studies, then choose a five member faculty doctoral committee, scheduling a defense of the dissertation research proposal by the end of the second year of study. Work in subsequent years shifts to dissertation-centered research and, finally, preparation and defense of the Ph.D. dissertation. All students are required to register to be a supervised teaching assistant in two approved courses during their tenure in the doctoral program. While there is no terminal master's degree program in the department, students may elect to receive the S.M. degree upon successful completion of their dissertation proposal defense.

#### Entrance Requirements

Entering students are expected to have received a broad undergraduate training in biology, and a good background in related quantitative subjects, such as chemistry, statistics and calculus. Students who are admitted without having fully satisfied these requirements will be required to remedy their deficiencies by taking appropriate courses during their first two years in the graduate program.

#### General Knowledge Examination

Each first year student will be expected to pass an oral general knowledge examination during the first year of study, generally no later than the 10th week of the spring quarter. This examination session shall be attended by all three members of an examination committee appointed by the student advisory committee. The goal of the examination will be to assess each student's general knowledge of key concepts, processes and issues in ecology and evolutionary biology, as covered in the courses recommended to the student by the student advisory committee during the student's first year in the program.

#### Dissertation Proposal Defense

This examination consists of the submission of a written Ph.D. research proposal and an oral presentation of the proposal in a public or closed/private seminar format, followed by a closed discussion and examination on the proposal presentation with the faculty committee chosen by the student and the chair of the department. Students are expected to schedule the dissertation proposal defense before the end of their second year.

#### Doctor of Philosophy

Upon successful completion of the dissertation proposal defense and admission into candidacy for the Ph.D., students work closely with the faculty advisor and dissertation committee on the dissertation project. During the period of two to three years in which students do primary original research, they also participate in seminars, discussion groups, and professional meetings and conferences, leading to the completion of the written Ph.D. dissertation. The Ph.D. in ecology and evolution is awarded based upon:

- Submission of a written dissertation based on original research, which must be approved by the faculty adviser and
  dissertation committee.
- Presentation of a public seminar based on the dissertation research.
- Following the public seminar, successful performance during an oral examination by the dissertation committee and other relevant faculty.
- Acceptance of the approved written dissertation by the university Dissertation Office in compliance with that
  office's regulations.

# Application

We strongly advise students considering application to the department to begin preparation of their application early in the autumn quarter, so that all materials will arrive by the December 1 deadline. Foreign applicants whose first language is not English also must submit TOEFL test scores with their application materials.

Further information also may be obtained from the graduate program's home page at http://eegraduate.uchicago.edu (http://pondside.uchicago.edu/ee/)

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# Ecology and Evolution Courses

# ECEV 30415. Evolution Before Darwin. 100 Units.

This course will explore the emergence and development of evolutionary thought prior to Charles Darwin's On the Origin of Species (1859). We will pay particular attention to the way in which transformism was a feature of nineteenth-century thought more generally, connecting natural history to astronomy, theology, and the study of humanity. Natural philosophers and later scientists who wished to make arguments concerning nature's deep past and hidden or obscured processes (such as the long-term transformations of stars, strata, and organic species) faced an essential problem: the power of observation and experiment was limited. Our class will interrogate this problem, and examine the way in which the development of evolutionary thought prior to Darwin was intimately connected to contentious debates regarding speculation and scientific method. We will conclude by contemplating the ways in which the ideas and challenges raised by transformism and evolution influenced the reception of Darwin's work, and the way in which these ideas and challenges remain embedded within seemingly disparate fields of study today.

Instructor(s): J. Daly Terms Offered: Winter

Equivalent Course(s): HIST 25316, HIPS 21415, KNOW 21415, ORGB 30415

#### ECEV 31100. Evolution of Biological Molecules. 100 Units.

The course connects evolutionary changes imprinted in genes and genomes with the structure, function and behavior of the encoded protein and RNA molecules. Central themes are the mechanisms and dynamics by which molecular structure and function evolve, how protein/ RNA architecture shapes evolutionary trajectories, and how patterns in present-day sequence can be interpreted to reveal the interplay data of evolutionary history and molecular properties. Core concepts in macromolecule biochemistry (folding and stability of proteins and RNA, structure-function relationships, kinetics, catalysis) and molecular evolution (selection, mutation, drift, epistasis, effective population size, phylogenetics) will be taught, and the interplay between them explored.

Instructor(s): A. Drummond, J. Thornton Terms Offered: Winter

Prerequisite(s): Comfort with basic computer programming (course will use Python and R); undergraduate biology,

chemistry, calculus, and introductory statistics.

Equivalent Course(s): HGEN 31100, BCMB 31100

# ECEV 31200. Data Analysis in Ecol/Evol. 100 Units.

The course provides a basic introduction to statistics for biologists. We cover experimental design and many of the potential pitfalls associated with data analysis, including pseudoreplication, multiple testing, regression effects, setting up appropriate null models, and graphical presentation. Assumptions underlying elementary tests, including non-parametric vs parametric and fixed vs random effects will be clarified. We will not cover advanced methods of analysis, beyond straightforward linear models. Students will be encouraged to analyse their own datasets using R.

Instructor(s): T. Price Terms Offered: Autumn. will be offered in Autumn 2018

Note(s): Required text: M. Whitlock & D. Schluter, Analysis of Biological Data, 2nd edition.

Equivalent Course(s): EVOL 31200

#### ECEV 31409. History of Extraterrestrial Life. 100 Units.

In 2014, the Vatican Radio made a splash when it reported that the pontiff, Pope Francis, condoned the baptism of extraterrestrials-if they so desired it. "Who are we to close doors?" he asked rhetorically. It was both a metaphor for spiritual inclusion and an accurate representation of the modern Vatican's position on the possibilities of modern astrobiology and the search for extrasolar planets, fields whose rapid growth over the past two decades make serious consideration of extraterrestrial life seem like a uniquely modern phenomena. Its history, however, is in fact many centuries old. In this course we will examine the development of beliefs concerning life in the universe from the sixteenth century to the present. How did historical actors understand the nature, abilities, and location of extraterrestrial life, and its relationship to man and god? We will analyze connections between these beliefs and contemporary political, social, scientific, and religious developments. These include the role of the plurality of worlds in the debates over heliocentrism, its impact and application in the context of deism and social and political freethought, its literary and artistic depictions and use as a tool of satire and social commentary, its influence on natural philosophy, its decline and the subsequent rise of alien conspiracists and their critics, and how and why conceptions of the extraplanetary other took a dark and sinister turn toward the early-to-mid twentieth century.

Equivalent Course(s): HIPS 21409, HIST 24917, KNOW 21409

#### ECEV 32000. Computing Skills for Biologists. 100 Units.

The course will cover basic concepts in computing for an audience of biology graduate students. The students will receive basic training in the use of version control systems, databases and regular expressions. They will learn how to program in python and R and how to use R to produce publication-grade figures for their manuscripts, and how to typeset scientific manuscripts and theses using LaTeX. All the examples and exercises will be biologically motivated and will make use of real data. The approach will be hands-on, with lecturing followed by exercises in class. Instructor(s): S. Allesina Terms Offered: Winter

# ECEV 32900. Plant Development and Molecular Genetics. 100 Units.

Genetic approaches to central problems in plant development will be discussed. Emphasis will be placed on embryonic pattern formation, meristem structure and function, reproduction, and the role of hormones and environmental signals in development. Lectures will be drawn from the current literature; experimental approaches (genetic, cell biological, biochemical) used to discern developmental mechanisms will be emphasized. Graduate students will present a research proposal in oral and written form; undergraduate students will present and analyze data from the primary literature, and will be responsible for a final paper.

Instructor(s): J. Greenberg Terms Offered: Spring

Prerequisite(s): For undergraduates only: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235.

Equivalent Course(s): MGCB 36100, DVBI 36100, BIOS 23299

#### ECEV 33365. Evolutionary and Genomic Medicine I. 100 Units.

Evolution is regularly investigated in free-living organisms, but some of its most fascinating and important examples occur in the interface between free-living and non-free-living states. In this course, we will use evolutionary and ecological principles to study the dynamics of viruses, unicellular organisms and cells in multi-cellular organisms relevant to human medicine. In EGM I, the emphasis will be on the evolution of pathogens, the evolution of cells of the immune system in response to pathogen invasion, the basis of autoimmune disorders, and the population genetics of cancerous cells in light of recent cancer genomic studies. EGM II will cover more general topics including Darwinian medicine, aging, and systems biology/medicine.

Instructor(s): S. Cobey, C-I. Wu Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235. Background in evolution and population genetics.

Equivalent Course(s): BIOS 23365

#### ECEV 33400. Stochastic Processes in Continuous Time: Ecology and Epidemiology. 100 Units.

This course will introduce students to stochastic processes in continuous time, and to their application in major areas of Ecology and Epidemiology. These areas include theories of biodiversity, models for metapopulation dynamics and species' extinction, and those for the population dynamics of infectious diseases. Examples and discussions will include applications to data from ecosystems and infectious diseases in Latin America. The course is organized into four modules. The first two modules develop the basic concepts and methods of Markov processes in continuous time, from the formulation of models to their analysis and numerical simulation. The two following modules will involve 'hands-on' work by the students with guidance of the instructor, through projects formulated on the basis of a list of potential questions and problems. Students will be evaluated based on the oral and written presentation of their projects. Expected background includes calculus, basic probability, and some familiarity with a programming language.

#### ECEV 35400. Gene Regulation. 100 Units.

This course covers the fundamental theory of gene expression in prokaryotes and eukaryotes through lectures and readings in the primary literature. Natural and synthetic genetic systems arising in the context of E. coli physiology and Drosophila development will be used to illustrate fundamental biological problems together with the computational and theoretical tools required for their solution. These tools include large-scale optimization, image processing, ordinary and partial differential equations, the chemical Langevin and Fokker-Planck equations, and the chemical master equation. A central theme of the class is the art of identifying biological problems which require theoretical analysis and choosing the correct mathematical framework with which to solve the problem.

Terms Offered: To be determined; may not offered in 2020-2021.

Prerequisite(s): Consent of instructor

Equivalent Course(s): CAAM 35400, STAT 35400, MGCB 35401

#### ECEV 35420. Stochastic Processes in Gene Regulation. 100 Units.

This didactic course covers the fundamentals of stochastic chemical processes as they arise in the study of gene regulation. The central object of study is the Chemical Master Equation and its coarse-grainings at the Langevin/Fokker-Planck, linear noise, and deterministic levels. We will consider both mathematical and computational approaches in contexts where there are both single and multiple deterministic limits.

Instructor(s): J. Reinitz Terms Offered: To be determined; may not be offered in 2020-2021.

Prerequisite(s): Consent of instructor.

Equivalent Course(s): STAT 35420, MGCB 35420, CAAM 35420

# ECEV 35800. Classics in Evolutionary Genetics. 100 Units.

Major classic papers in evolutionary genetics that had great impact on the development of the field are reviewed. Instructor(s): M. Long, C-I Wu Terms Offered: Autumn. will be offered in Autumn 2018 Equivalent Course(s): EVOL 35800

#### ECEV 35901. Genomic Evolution I. 100 Units.

Canalization, a unifying biological principle first enunciated by Conrad Waddington in 1942, is an idea that has had tremendous intellectual influence on developmental biology, evolutionary biology, and mathematics. In this course we will explore canalization in all three contexts through extensive reading and discussion of both the classic and modern primary literature. We intend this exploration to raise new research problems which can be evaluated for further understanding. We encourage participants to present new ideas in this area for comment and discussion.

Instructor(s): M. Long, J. Reinitz, and C-I. Wu Terms Offered: TBD. not offered in 2018-19 Equivalent Course(s): EVOL 35901, STAT 35410

#### ECEV 35902. Genomic Evolution II: New Gene Problems. 100 Units.

This course is a summary and analysis for a rapidly growing area of gene evolution in recent years: Origin and evolution of new genes. We will review major scientific problems related to origination and evolution of new genes, ranging from the mechanistic processes that create new genes, to the rates and patterns of new gene origination, to the evolutionary forces acting on the new genes and to the impacts of the new genes on phenotypic evolution and to recently found evolutionary dynamics of sexual conflicts. While hundreds of research articles are discussed and, more importantly, the potential new gene evolution are encouraged to present and discussed, in particular, with interests in: (i) finding new problems; (ii) finding new concepts; (iii) developing new techniques for analysis of new genes.

Instructor(s): M. Long and C. Wu Terms Offered: Spring. first offered in Spring 2018

#### ECEV 36400. Molecular Phylogenetics. 100 Units.

While evolution by natural selection is an elegantly simple phenomenon, modern research in evolutionary biology contains a variety of controversial, and sometimes confusing, topics. In this course, we will explore, as a group, a select list of controversial or confusing topics in evolutionary biology through a mix of student-led presentations and discussion of the primary literature. Each student will also write a review paper about his or her selected topic.

Instructor(s): J. Thornton, A. Drummond Terms Offered: Spring. offered in alternate (even) years

Note(s): not offered in 2018-19

Equivalent Course(s): HGEN 36400, ORGB 36400

# ECEV 36700. Advanced Topics in Behavioral Ecology. 100 Units.

This is a reading course covering advanced topics in behavioral ecology. The list of topics to be covered will be based in part on student interests, but may include: behavior and conservation, communication, mating systems, sexual conflict, and sperm competition. This course is designed as a graduate course, but advanced undergraduates may enroll with the permission of the instructor.

Instructor(s): S. Pruett-Jones, T. Price Terms Offered: Winter

Equivalent Course(s): EVOL 46700

# ECEV 36900. Topics in Paleobiology. 100 Units.

In this seminar we investigate paleobiological or multidisciplinary topics of current interest to students and faculty. Previous subjects include the origin of phyla, historical and macro-ecology, the stratigraphic record and evolutionary patterns, and climate and evolution.

Instructor(s): D. Jablonski, S. Kidwell, T. Price Terms Offered: Autumn Equivalent Course(s): GEOS 36900, EVOL 31900

## ECEV 40100. Grants, Publications, and Professional Issues. 100 Units.

Covers professional topics in evolutionary biology, primarily strategies in grant writing and review. Each student will work towards the submission of an application of their choice. The course meets weekly and involves extensive writing and discussion.

Instructor(s): J. Bergelson, R. Ho, M. Coates Terms Offered: Autumn Note(s): Open to first and second year graduate students in the Darwinian Sciences Cluster Equivalent Course(s): ORGB 40101, EVOL 40100

#### ECEV 40200. Advanced Topics in Ethics for the Darwinian Sciences. 100 Units.

This course covers advanced topics in ethics relevant to senior Ph.D. students in the Darwinian Sciences. CEB students are required to successfully complete this course before being awarded the Ph.D Instructor(s): M. Coates, P. Herendeen Terms Offered: Winter Prerequisite(s): Open to Ph.D. students in the Darwinian Sciences Equivalent Course(s): EVOL 40200, ORGB 40200

#### ECEV 42600. Community Ecology. 100 Units.

Lectures and readings cover advanced topics in multi-species systems, and include an introduction to basic theoretical approaches.

Instructor(s): J.T. Wootton Terms Offered: Autumn Equivalent Course(s): EVOL 42600

# ECEV 42800. Population Ecology. 100 Units.

A lecture course on the empirical and theoretical approaches to the study of natural populations, including field methodologies and quantitative approaches. Includes computer assignments. Instructor(s): C. Pfister Terms Offered: Winter Equivalent Course(s): EVOL 42800

# ECEV 42900. Theoretical Ecology. 100 Units.

An introduction to mathematical modeling in ecology. The course will begin with linear growth and Lotka-Volterra models, and proceed to partial differential equations. The course's perspective will emphasize numerical computations and fitting models to data.

Instructor(s): G. Dwyer, S. Cobey Terms Offered: Winter

#### ECEV 44001. Molecular Evolution I: Fundamentals and Principles. 100 Units.

The comparative analysis of DNA sequence variation has become an important tool in molecular biology, genetics, and evolutionary biology. This course covers major theories that form the foundation for understanding evolutionary forces that govern molecular variation, divergence, and genome organization. Particular attention is given to selectively neutral models of variation and evolution, and to alternative models of natural selection. The course provides practical information on accessing genome databases, searching for homologous sequences, aligning DNA and protein sequences, calculating sequence divergence, producing sequence phylogenies, and estimating evolutionary parameters.

Instructor(s): M. Kreitman Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235 and two quarters of calculus, or consent of instructor.

Equivalent Course(s): EVOL 44001, BIOS 23258

# ECEV 44002. Molecular Evolution II: Genes and Genomes. 100 Units.

This course covers the knowledge and well-established evolutionary analyses of genes and genomes, as well as related areas (e.g., origination and evolution of new genes, exon-intron structure, sex-related genes, sex-determination genetic systems, transposable elements, gene regulation systems, duplication of genes and genomes, evolution of genome sizes). These topics are discussed under the processes driven by various evolutionary forces and genetic mechanisms. The analysis of these problems is conducted with the genomic context. Lectures, discussions, and experiments are combined. Instructor(s): M. Long Terms Offered: Spring. This course is offered in alternate (odd) years.

Prerequisite(s): BIOS 23258 or consent of instructor

# Equivalent Course(s): EVOL 44002, BIOS 23259

# ECEV 44500. Networks in Ecology and Evolution. 100 Units.

This course will introduce students to concepts and methods in Network Science, through their application to ecological systems, in particular communities of coexisting species and their interactions. The history of ideas on biodiversity from the perspective of food webs ("who eats whom" in an ecosystem) will be followed in the first part of the course by material on different types of networks, properties used to describe their topology/structure, and probabilistic models to generate such structure. In a 'hands-on' part of the course, students will become familiar with existing data sets and algorithms for network visualization, computation of network metrics, and model simulation and inference. The role of evolutionary constraints in network topology will be discussed. The second part of the course will consider the relationship between structure and dynamics, including notions of stability and robustness, and the interaction of ecology and evolution in the assembly of communities of interacting species. Networks in epidemiology will provide examples of other ecological and evolutionary applications.

#### ECEV 49401. Approaches to Teaching in The Darwinian Sciences. 100 Units.

This course will introduce different teaching philosophies and methods that address how to be an effective teacher in the Darwinian Sciences. Specifically, the course will address what skills and knowledge undergraduates need to acquire and which assignments best teach these skills. Students will prepare course syllabi, discuss different approaches to teaching, and draft a philosophy of teaching statement. The overall goal for the course is that the students think critically about the art of teaching and formulate their own thoughts on the matter to better prepare them for their own careers in teaching. Equivalent Course(s): ORGB 49401, EVOL 49401

# ECEV 49500. Teaching: Ecology/Evolution. 100 Units.

For graduate students to build their teaching skills by assisting with the instruction of a course in a core area of Ecology and Evolution. Students should register for the section under the faculty member who is their teaching mentor for the quarter.

#### ECEV 49600. READINGS: Ecology and Evolution. 300.00 Units.

#### ECEV 49700. Readings: Ecology/Evolution. 300.00 Units.

#### ECEV 49800. Off-Campus Grad Rsch: Ecology & Evolution. 300.00 Units.

For graduate students conducting dissertation research at an off-campus lab or field location. Students should register for the section under their advisor only when using pro forma status for the quarter.

#### ECEV 49900. On-Campus Grad Rsch: Ecology & Evolution. 300.00 Units.

For graduate students conducting dissertation research wholly or partly on campus for the quarter. Students should register for the section under their advisor and time spent should directly advance their dissertation in Ecology and Evolution.

#### ECEV 70000. Advanced Study: Ecology & Evolution. 300.00 Units.

Advanced Study: Ecology & Evolution



# Committee on Evolutionary Biology

Department Website: http://evbio.uchicago.edu

Michael Coates

Associate Chair

Shannon Hackett

Faculty

Chair

- Zeray Alemseged, Organismal Biology and Anatomy
- Stefano Allesina, Ecology and Evolution
- Kenneth Angielczyk, Field Museum
- John Bates, Field Museum
- Joy Bergelson, Ecology and Evolution
- Rüdiger Bieler, Field Museum
- Michael Coates, Organismal Biology and Anatomy
- Maureen Coleman, Geophysical Sciences
- Katherine Cronin, Lincoln Park Zoo
- Martin Feder, Organismal Biology and Anatomy
- Michael J. Foote, Geophysical Sciences
- Lance Grande, Field Museum
- Shannon Hackett, Field Museum
- Lawrence Heaney, Field Museum
- Patrick Herendeen, Chicago Botanic Garden
- Andrew Hipp, Morton Arboretum/Herbarium
- Robert Ho, Organismal Biology and Anatomy
- Sean Hoban, Morton Arboretum
- David Jablonski, Geophysical Sciences
- Susan M. Kidwell, Geophysical Sciences
- Marcus Kronforst, Ecology and Evolution
- Robert Lacy, Brookfield Zoo
- Scott Lidgard, Field Museum
- Sarah London, Psychology
- Manyuan Long, Ecology and Evolution
- Thorston Lumbsch, Field Museum
- Zhe-Xi Luo, Organismal Biology and Anatomy
- Heather Marlow, Organismal Biology and Anatomy
- Robert D. Martin, Field Museum
- Jill Mateo, Comparative Human Development
- Lance Miller, Chicago Zoological Society (Brookfield Zoo)
- R. Michael Miller, Argonne National Laboratory
- Gregory M. Mueller, Chicago Botanic Garden
- Salikoko Mufwene, Linguistics
- John Novembre, Human Genetics
- Mercedes Pascual, Ecology and Evolution
- Nipam Patel, Marine Biological Laboratory
- Bruce Patterson, Field Museum
- Catherine Pfister, Ecology and Evolution
- Trevor Price, Ecology and Evolution
- Stephen Pruett-Jones, Ecology and Evolution
- Maanasa Raghavan, Human Genetics
- Clifton Ragsdale, Neurobiology
- Richard Ree, Field Museum

- Olivier Rieppel, Field Museum
- Callum Ross, Organismal Biology and Anatomy
- Rachel Santymire, Lincoln Park Zoo
- Urs Schmidt-Ott, Organismal Biology and Anatomy
- Paul Sereno, Organismal Biology and Anatomy
- Neil Shubin, Organismal Biology and Anatomy
- Petra Sierwald, Field Museum
- Graham Slater, Geophysical Sciences
- Douglas Stotz, Field Museum
- Russell Tuttle, Anthropology
- Janet Voight, Field Museum
- Mark Webster, Geophysical Sciences
- Mark Westneat, Organismal Biology and Anatomy
- Norm Wickett, Chicago Botanic Garden
- John Timothy Wootton, Ecology and Evolution

#### Emeritus

- Jerry Coyne, Ecology and Evolution
- · James Hopson, Organismal Biology and Anatomy
- Michael LaBarbera, Organismal Biology and Anatomy
- Wen-Hsiung Li, Ecology and Evolution
- R. Eric Lombard, Organismal Biology and Anatomy
- Margaret Thayer, Field Museum
- Harold Voris, Field Museum
- William Wimsatt, Philosophy
- Chung I Wu, Ecology and Evolution

The Committee on Evolutionary Biology (CEB) provides students with the opportunity for interdisciplinary study of all aspects of evolutionary biology. The committee consists of faculty members with primary appointments in departments in all four graduate divisions within the university and of associated faculty from institutions in the Chicago area, such as Argonne National Laboratory, Lincoln Park Zoo, Chicago Botanic Garden, the Marine Biological Laboratory, Morton Arboretum, and the Field Museum. The diversity of research interests represented by the collective expertise of the committee faculty contributes to its strong national and international reputation as a graduate training program.

Students in the committee have ready access to facilities at the associated institutions, including the more than 1,100 animals representing over 200 species at Lincoln Park Zoo, more than 17 million specimens in the Field Museum collections in botany, zoology, and paleontology, and libraries at the Field Museum. Various facilities for the study of molecular evolution and phylogenetic analysis are available to committee students, as are several student computer centers, an on-campus greenhouse, and digital equipment for off-site research.

In the Chicago area, committee students have access to the rich and diverse resources available at the Chicago Botanic Garden, Argonne National Laboratory, the Shedd Aquarium, the Morton Arboretum, and the many parks and lands managed by the local forest preserve and park districts.

The University of Chicago is a member of the Organization for Tropical Studies. Doctoral students in the committee have taken courses in tropical ecology and conducted research in Costa Rica through this affiliation. Recent evolutionary biology students have also conducted domestic research at a variety of field sites, including the Southwest Research Station of the American Museum of Natural History, Sierra Nevada Aquatic Research Laboratory, Kellogg Biological Station, the Marine Biological Laboratory at Woods Hole, and Friday Harbor Marine Laboratory. International research is conducted on every continent.

#### Program of Study

Most students in the Committee on Evolutionary Biology complete their Ph.D. program in about five and a half years.

The first and second years consist largely of course work and individual reading and research courses, aiming toward successful defense of a dissertation research proposal by the end of the Spring Quarter in the second year of study.

#### First year

Entering students are expected to have received a broad undergraduate training in biology and a good background in related quantitative subjects, such as chemistry, statistics and calculus. Students who are admitted with gaps in these areas may be required to remedy their deficiencies by taking appropriate courses during their first two years in the graduate program. The committee maintains a student advisory committee, which meets three times a year with each of the first

and second year students to advise them on courses available, arbitrate on which courses meet the committee's course distribution requirements, and otherwise help students keep on track towards Ph.D. candidacy.

#### Second year

Second year students continue to meet with the student advisory committee until they pass their preliminary examination/dissertation proposal hearing. The first part of the second year may be taken up mostly with course work, supplemented more heavily by reading and research courses.

# Reading and research requirements

CEB courses have been divided into seven broad areas. Students must successfully complete a course in five of the seven areas to be recommended for Ph.D. candidacy. The primary aim is that the student acquires considerable breadth in evolutionary biology; this breadth and the interdisciplinary research it permits should be the distinguishing feature of students working in the committee. In the first two years of study students generally enroll in three courses per quarter. This can be a combination of lecture, seminar, research, and reading formats.

#### Division of the Biological Sciences teaching assistant requirement program

During their tenure in the doctoral program, students are required to register for two evaluated teaching assistantships in two approved courses.

# Dissertation proposal hearing and admission to Ph.D. candidacy

Students should select an advisor no later than Autumn Quarter of their second year. This advisor normally will become the chair of the student's dissertation proposal committee. The committee for the dissertation proposal hearing will be formed by the student and her/his advisor, subject to approval by the CEB Chair, when the student asks the CEB Chair in writing to approve her/his request to appoint the exam committee and hold the proposal hearing.

CEB students must present and defend their dissertation proposal, followed by an oral examination by a faculty committee on general issues in evolutionary biology. Students are expected to successfully defend their dissertation proposal by the end of the Spring Quarter of their second year in the Ph.D. program. After successfully defending their dissertation proposal, students may be recommended for candidacy for the Ph.D. by the CEB Chair.

#### Ph.D. dissertation

Upon successful completion of the dissertation proposal hearing and admission into candidacy for the Ph.D., students work on their dissertation projects in close consultation with their faculty advisor and dissertation committee. During a period of two to three years the student does primary original research, participates in seminars, discussion groups, and professional meetings and conferences, and completes the written Ph.D. dissertation. Students are expected to publish dissertation related research, and encouraged to submit a substantial part of their research for publication before Ph.D. completion. A student is expected to submit a dissertation outline and proposed timetable for dissertation completion six months before the estimated date of final defense. These plans must be approved by the advisory committee, and a copy submitted as part of the meeting report to the CEB Chair.

The Ph.D. in evolutionary biology is awarded based upon the candidate's having:

- Submitted a written dissertation reporting results of the student's original research in a form suitable for
  publication, which must be approved by the faculty advisor and dissertation committee.
- Successfully completed a final oral examination covering the student's field of specialization.
- Final approval of the dissertation by the CEB Chair and the University Dissertation Office.

#### Admission

We strongly advise students considering application to CEB to begin preparation of their application early in the autumn quarter, so that all materials will arrive by the December 1<sup>st</sup> deadline. Foreign applicants whose first language is not English also must submit TOEFL or IELTS test scores with their application materials (http://gradadmissions.uchicago.edu/ admissions/international/).

Students have the opportunity to apply for the M.S. degree while completing their work for the Ph.D. The M.S. degree is also awarded in special cases, usually in association with Ph.D. requirements for graduate students in the Committee on the Conceptual and Historical Studies of Science.

Further information also may be obtained from the program's home at http://evbio.uchicago.edu, or by sending an email to darwin@uchicago.edu.

# Evolutionary Biology Courses

# EVOL 30196. Cultural Evolution. 100 Units.

This course explores the nature of process of cultural evolution. After establishing a background on the characteristics of biological evolution, we consider topics in cultural evolution that explore similarities and differences between processes of biological and cultural evolution, and theoretical and conceptual innovations necessary to deal with the latter, using a variety of approaches and methodologies, including agent-based modeling, "big data" approaches, and case studies. These will include topics like: the nature of inheritance, the limits of 'memes', the role of cognitive development, the coevolution of cognition and lithic technology, the scaffolding and evolution of social support, institutions, organizations and firms, the structure of scientific communities, entrenchment and the emergence of conventions and standards, the role of technology, horizontal vs. vertical transmission, multichannel inheritance, economic markets, the nature of innovation, and the role of history.

Equivalent Course(s): CHSS 40196, PHIL 52805, SOCI 40196

# EVOL 30200. Chordates: Evolution and Comparative Anatomy. 100 Units.

Chordate biology emphasizes the diversity and evolution of modern vertebrate life, drawing on a range of sources (from comparative anatomy and embryology to paleontology, biomechanics, and developmental genetics). Much of the work is lab-based, with ample opportunity to gain firsthand experience of the repeated themes of vertebrate body plans, as well as some of the extraordinary specializations manifest in living forms. The instructors, who are both actively engaged in vertebrate-centered research, take this course beyond the boundaries of standard textbook content. Instructor(s): M. Coates Terms Offered: Winter. L.

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence, including BIOS 20187 or BIOS 20235 Note(s): Not offered Winter 2019 - Offered Winter 2020 and every other year thereafter. Equivalent Course(s): BIOS 22250, ORGB 30250

# EVOL 30300. Key Issues in Early Vertebrate Evolution. 100 Units.

Equivalent Course(s): ORGB 31300

## EVOL 31200. Data Analysis in Ecol/Evol. 100 Units.

The course provides a basic introduction to statistics for biologists. We cover experimental design and many of the potential pitfalls associated with data analysis, including pseudoreplication, multiple testing, regression effects, setting up appropriate null models, and graphical presentation. Assumptions underlying elementary tests, including non-parametric vs parametric and fixed vs random effects will be clarified. We will not cover advanced methods of analysis, beyond straightforward linear models. Students will be encouraged to analyse their own datasets using R.

Instructor(s): T. Price Terms Offered: Autumn. will be offered in Autumn 2018

Note(s): Required text: M. Whitlock & D. Schluter, Analysis of Biological Data, 2nd edition.

Equivalent Course(s): ECEV 31200

#### EVOL 31201. Mammalian Evolutionary Biology. 100 Units.

This course examines mammalian evolution-the rise of living mammals from ancient fossil ancestors stretching back over 300 million years. Lectures focus on the evolutionary diversification of mammals, including anatomical structure, evolutionary adaptations, life history, and developmental patterns. Labs involve detailed comparative study of mammalian skeletons, dissection of muscular and other systems, trips to the Field Museum to study fossil collections, and studies of human anatomy at the Pritzker School of Medicine. Students will learn mammalian evolution, functional morphology, and development, and will gain hands-on experience in dissection. Taught by instructors who are active in scientific research on mammalian evolution, the course is aimed to convey new insights and the latest progress in mammalian paleontology, functional morphology, and evolution. Prerequisite(s): Second-year standing and completion of a Biological Sciences Fundamentals sequence; or GEOS 13100-13200 or GEOS 22300, or consent of instructors.

Instructor(s): Z. Luo, K. Angielczyk Terms Offered: Autumn. L.

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235; or GEOS 13100-13200 or GEOS 22300, or consent of instructors.

Equivalent Course(s): BIOS 23262, ORGB 31201

#### EVOL 31700. Macroevolution. 100 Units.

Patterns and processes of evolution above the species level, in both recent and fossil organism. A survey of the current literature, along with case studies. Instructor(s): D. Jablonski Terms Offered: Spring

Equivalent Course(s): GEOS 36800

#### EVOL 31800. Taphonomy. 100 Units.

Lecture and research course on patterns and processes of fossilization, including rates and controls of soft tissue decomposition, post mortem behavior of skeletal hard parts, concentration and burial of remains, scales of time averaging, and the net spatial and compositional fidelity of (paleo)biologic information, including trends across environments and evolutionary time. Offered alternate years.

Instructor(s): S. Kidwell

Equivalent Course(s): GEOS 36700

## EVOL 31900. Topics in Paleobiology. 100 Units.

In this seminar we investigate paleobiological or multidisciplinary topics of current interest to students and faculty. Previous subjects include the origin of phyla, historical and macro-ecology, the stratigraphic record and evolutionary patterns, and climate and evolution.

Instructor(s): D. Jablonski, S. Kidwell, T. Price Terms Offered: Autumn Equivalent Course(s): GEOS 36900, ECEV 36900

# EVOL 32245. Biomechanics: How Life Works. 100 Units.

This course will explore form and function in a diversity of organisms, using the principles of physics and evolutionary theory to understand why living things are shaped as they are and behave in such a diversity of ways. Biomechanics is at the interface of biology, physics, art, and engineering. We will study the impact of size on biological systems, address the implications of solid and fluid mechanics for organismal design, learn fundamental principles of animal locomotion, and survey biomechanical approaches. Understanding the mechanics of biological organisms can help us gain insight into their behavior, ecology and evolution.

Instructor(s): M. Westneat Terms Offered: Spring. L. Spring.

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence. Physics useful.

Note(s): This course will include a lab and will alternate years with BIOS 22233.

Equivalent Course(s): ORGB 32245, BIOS 22245

# EVOL 32400. Invertebrate Paleobiology and Evolution. 100 Units.

This course provides a detailed overview of the morphology, paleobiology, evolutionary history, and practical uses of the invertebrate and microfossil groups commonly found in the fossil record. Emphasis is placed on understanding key anatomical and ecological innovations within each group and interactions among groups responsible for producing the observed changes in diversity, dominance, and ecological community structure through evolutionary time. Labs supplement lecture material with specimen-based and practical application sections. An optional field trip offers experience in the collection of specimens and raw paleontological data. Several "Hot Topics" lectures introduce important, exciting, and often controversial aspects of current paleontological research linked to particular invertebrate groups. (L) Instructor(s): M. Webster Terms Offered: Autumn

Prerequisite(s): GEOS 13100 and 13200, or equivalent. Students majoring in Biological Sciences only; Completion of the general education requirement in the Biological Sciences, or consent of instructor.

Equivalent Course(s): BIOS 23261, GEOS 36300, GEOS 26300

#### EVOL 33700. Developmental Genetics & Evolution. 100 Units.

Equivalent Course(s): BIOS 20256

#### EVOL 33850. Evolution and Development. 100 Units.

The course will provide a developmental perspective on animal body plans in phylogenetic context. The course will start with a few lectures, accompanied by reading assignments. Students will be required to present a selected research topic that fits the broader goal of the course and will be asked to submit a referenced written version of it after their oral presentation. Grading will be based on their presentation (oral and written) as well as their contributions to class discussions. Prerequisite(s): Advanced undergraduates may enroll with the consent of the instructor.

Instructor(s): U. Schmidt-Ott Terms Offered: Autumn

Prerequisite(s): Advanced undergraduates may enroll with the consent of the instructor.

Equivalent Course(s): ORGB 33850, DVBI 33850, BIOS 22306

# EVOL 34800. Kinship and Social Systems. 100 Units.

This course will use a biological approach to understanding how groups form and how cooperation and competition modulate group size and reproductive success. We will explore social systems from evolutionary and ecological perspectives, focusing on how the biotic and social environments favor cooperation among kin as well as how these environmental features influence mating systems and inclusive fitness. While a strong background in evolutionary theory is not required, students should have basic understanding of biology and natural selection. Course will use combination of lectures and discussion.

Instructor(s): J. Mateo Terms Offered: Autumn Note(s): CHDV Distribution, A\*; 1\* Equivalent Course(s): CHDV 34800

#### EVOL 35300. Phylogenetic Comparative Methods. 100 Units.

This is a graduate seminar course about the uses of phylogenetic trees in evolution and ecology, emphasizing historical inference of phenotypic traits, geographic ranges, and community ecology. (This is not a course on how to infer phylogenies, or their uses in studies of molecular evolution and population genetics.) Within this scope we will focus on topics of popular interest and relevance to student research. The format of the 2-hour weekly meeting will be somewhat fluid, but I anticipate giving introductory remarks or a lecture on main topics, followed by discussion of primary literature, and opportunities to work hands-on with software (bring your own laptop). Small-group assignments will be given to develop and present short tutorials on conducting analyses of real data.

Instructor(s): R. Ree, A. Hipp

# EVOL 35301. Birds of the World. 100 Units.

# EVOL 35401. Reconstructing the Tree of Life: An Introduction to Phylogenetics. 100 Units.

This course is an introduction to the tree of life (phylogeny): its conceptual origins, methods for discovering its structure, and its importance in evolutionary biology and other areas of science. Topics include history and concepts, sources of data, methods of phylogenetic analysis, and the use of phylogeneis to study the tempo and mode of lineage diversification, coevolution, biogeography, conservation, molecular biology, development, and epidemiology. One Saturday field trip and weekly computer labs required in addition to scheduled class time. This course is offered in alternate (odd) years. Instructor(s): R. Ree. Terms Offered: Autumn. L.

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence or consent of instructor Note(s): This course is offered in alternate (odd) years.

Equivalent Course(s): BIOS 23404

#### EVOL 35800. Classics in Evolutionary Genetics. 100 Units.

Major classic papers in evolutionary genetics that had great impact on the development of the field are reviewed. Instructor(s): M. Long, C-I Wu Terms Offered: Autumn. will be offered in Autumn 2018 Equivalent Course(s): ECEV 35800

# EVOL 35901. Genomic Evolution I. 100 Units.

Canalization, a unifying biological principle first enunciated by Conrad Waddington in 1942, is an idea that has had tremendous intellectual influence on developmental biology, evolutionary biology, and mathematics. In this course we will explore canalization in all three contexts through extensive reading and discussion of both the classic and modern primary literature. We intend this exploration to raise new research problems which can be evaluated for further understanding. We encourage participants to present new ideas in this area for comment and discussion.

Instructor(s): M. Long, J. Reinitz, and C-I. Wu Terms Offered: TBD. not offered in 2018-19 Equivalent Course(s): ECEV 35901, STAT 35410

#### EVOL 36700. Morphometrics. 100 Units.

This graduate-level course serves as an introduction to the field of morphometrics (the analysis of organismal shape). Quantitative exploratory and confirmatory techniques involving both traditional (length-based) and geometric (landmarkbased) summaries of organismal shape are introduced in a series of lectures and practical exercises. Emphasis is placed on the application of morphometric methods to issues such as (but not restricted to) quantification of intraspecific variability, interspecific differences, disparity, ontogenetic growth patterns (allometry), and phylogenetic changes in morphology. Relevant statistical and algebraic operations are explained assuming no prior background. Students are required to bring personal laptop computers, and are expected to acquire and analyze their own data sets during the course. Instructor(s): M. Webster Terms Offered: Winter

Equivalent Course(s): GEOS 36000

# EVOL 36905. Topics in Conservation Paleobiology. 100 Units.

Paleobiological data from very young sedimentary records, including skeletal 'death assemblages' actively accumulating on modern land surfaces and seabeds, provide unique information on the status of present-day populations, communities, and biomes and their responses to natural and anthropogenic stress over the last few decades to millennia. This course on the emerging discipline of 'conservation paleobiology' uses weekly seminars and individual research projects to introduce how paleontologic methods, applied to modern samples, can address critical issues in the conservation and restoration of biodiversity and natural environments, including such basic questions as 'has a system changed, and if so how and when relative to suspected stressors?'. The course will include hands-on experience, either in the field or with already-collected marine benthic samples, to assess societally relevant ecological change in modern systems over time-frames beyond the reach of direct observation. Enrollment limited.

Instructor(s): S. Kidwell Terms Offered: Winter

Prerequisite(s): Additional Notes For undergraduates: completion of GEOS 13100-13200-13300 or equivalent or completion of a 20000 level course in Palentology.

Equivalent Course(s): GEOS 36905, GEOS 26905

#### EVOL 38600. Apes and Human Evolution. 100 Units.

This course is a critical examination of the ways in which data on the behavior, morphology, and genetics of apes have been used to elucidate human evolution. We emphasize bipedalism, hunting, meat eating, tool behavior, food sharing, cognitive ability, language, self-awareness, and sociability. Visits to local zoos and museums, film screenings, and demonstrations with casts of fossils and skeletons required.

Instructor(s): R. Tuttle Terms Offered: Spring. Spring 2021

Prerequisite(s): BIOS 10130. NO BIOLOGICAL SCIENCES MAJORS OR NON-BIOLOGY PRE-MED STUDENTS, except by petition.

Equivalent Course(s): ANTH 21428, ANTH 38600, BIOS 13253, HIPS 21428

#### EVOL 40100. Grants. Publications. and Professional Issues. 100 Units.

Covers professional topics in evolutionary biology, primarily strategies in grant writing and review. Each student will work towards the submission of an application of their choice. The course meets weekly and involves extensive writing and discussion.

Instructor(s): J. Bergelson, R. Ho, M. Coates Terms Offered: Autumn

Note(s): Open to first and second year graduate students in the Darwinian Sciences Cluster Equivalent Course(s): ORGB 40101, ECEV 40100

# EVOL 40200. Advanced Topics in Ethics for the Darwinian Sciences. 100 Units.

This course covers advanced topics in ethics relevant to senior Ph.D. students in the Darwinian Sciences. CEB students are required to successfully complete this course before being awarded the Ph.D Instructor(s): M. Coates, P. Herendeen Terms Offered: Winter Prerequisite(s): Open to Ph.D. students in the Darwinian Sciences

Equivalent Course(s): ECEV 40200, ORGB 40200

# EVOL 41500. Topics in Stratigraphy and Biosedimentology. 100 Units.

Seminar course using the primary literature and/or a field problem. Topic selected from the rapidly evolving fields of sequence stratigraphy, basin analysis, and animal sediment relationships. Equivalent Course(s): GEOS 38400

# EVOL 42600. Community Ecology. 100 Units.

Lectures and readings cover advanced topics in multi-species systems, and include an introduction to basic theoretical approaches.

Instructor(s): J.T. Wootton Terms Offered: Autumn Equivalent Course(s): ECEV 42600

# EVOL 42800. Population Ecology. 100 Units.

A lecture course on the empirical and theoretical approaches to the study of natural populations, including field methodologies and quantitative approaches. Includes computer assignments. Instructor(s): C. Pfister Terms Offered: Winter Equivalent Course(s): ECEV 42800

# EVOL 43248. Research Methods in Behavior and Development. 100 Units.

In this graduate seminar we will discuss research design, experimental methods, statistical approaches and field techniques. Other topics will be covered depending on participant interests, such as acoustic analyses, ethogram development, event recorders, spectrophotometers, marking methods, spatial analyses and grant-writing strategies. The course is primarily designed for studies of non-human animals, although studies of human behavior, especially developmental studies, will be addressed.

Instructor(s): J. Mateo Terms Offered: Winter Prerequisite(s): Permission of instructor. Note(s): Not offered 2014-15 Equivalent Course(s): CHDV 23248, CHDV 43248

# EVOL 44001. Molecular Evolution I: Fundamentals and Principles. 100 Units.

The comparative analysis of DNA sequence variation has become an important tool in molecular biology, genetics, and evolutionary biology. This course covers major theories that form the foundation for understanding evolutionary forces that govern molecular variation, divergence, and genome organization. Particular attention is given to selectively neutral models of variation and evolution, and to alternative models of natural selection. The course provides practical information on accessing genome databases, searching for homologous sequences, aligning DNA and protein sequences, calculating sequence divergence, producing sequence phylogenies, and estimating evolutionary parameters. Instructor(s): M. Kreitman Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235 and two quarters of calculus, or consent of instructor.

Equivalent Course(s): ECEV 44001, BIOS 23258

# EVOL 44002. Molecular Evolution II: Genes and Genomes. 100 Units.

This course covers the knowledge and well-established evolutionary analyses of genes and genomes, as well as related areas (e.g., origination and evolution of new genes, exon-intron structure, sex-related genes, sex-determination genetic systems, transposable elements, gene regulation systems, duplication of genes and genomes, evolution of genome sizes). These topics are discussed under the processes driven by various evolutionary forces and genetic mechanisms. The analysis of these problems is conducted with the genomic context. Lectures, discussions, and experiments are combined.

Instructor(s): M. Long Terms Offered: Spring. This course is offered in alternate (odd) years.

Prerequisite(s): BIOS 23258 or consent of instructor

Equivalent Course(s): BIOS 23259, ECEV 44002

# EVOL 45500. Biogeography. 100 Units.

This course examines factors governing the distribution and abundance of animals and plants. Topics include patterns and processes in historical biogeography, island biogeography, geographical ecology, areography, and conservation biology (e.g., design and effectiveness of nature reserves).

Instructor(s): B. Patterson (odd years, lab). L., Heaney (even years, discussion) Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence and a course in either ecology, evolution, or earth history; or consent of instructor

Equivalent Course(s): GEOG 25500, ENST 25500, GEOG 35500, BIOS 23406

## EVOL 46200. Evolution and the Fossil Record. 100 Units.

This course serves as an introduction to the practical and theoretical issues involved in obtaining primary systematic data from the fossil record, and demonstrates the criticality of such data to the rigorous documentation and interpretation of evolutionary patterns. Precise topics of the seminar discussions will vary from year to year depending on relevance to student research projects and interest, but are likely to focus on issues such as (but not restricted to) practical techniques in specimen-based paleontology (including fossil preparation and photography), species delimitation (including species concepts, variability, and ecophenotypy), stratigraphic/geographic range determination (including biostratigraphic correlation), phylogeny reconstruction (including the relevance of stratigraphic data), and the importance of these topics to broader macroevolutionary issues such as diversity/disparity dynamics and the determination of evolutionary trends, rates and processes.

Equivalent Course(s): GEOS 36200

#### EVOL 46700. Advanced Topics in Behavioral Ecology. 100 Units.

This is a reading course covering advanced topics in behavioral ecology. The list of topics to be covered will be based in part on student interests, but may include: behavior and conservation, communication, mating systems, sexual conflict, and sperm competition. This course is designed as a graduate course, but advanced undergraduates may enroll with the permission of the instructor.

Instructor(s): S. Pruett-Jones, T. Price Terms Offered: Winter

Equivalent Course(s): ECEV 36700

# EVOL 49401. Approaches to Teaching in The Darwinian Sciences. 100 Units.

This course will introduce different teaching philosophies and methods that address how to be an effective teacher in the Darwinian Sciences. Specifically, the course will address what skills and knowledge undergraduates need to acquire and which assignments best teach these skills. Students will prepare course syllabi, discuss different approaches to teaching, and draft a philosophy of teaching statement. The overall goal for the course is that the students think critically about the art of teaching and formulate their own thoughts on the matter to better prepare them for their own careers in teaching. Equivalent Course(s): ECEV 49401, ORGB 49401

# EVOL 49500. Teaching in Evolutionary Biology. 100 Units.

Under the supervision of University faculty, graduate students in the Evolutionary Biology may serve as teaching assistants for courses in the College and relevant Graduate Divisions. Students will be evaluated and mentored throughout the quarter by their faculty supervisor, and at the end of the quarter by enrolled students. Students must choose the instructor name from the faculty listing in the Time Schedules and register using that instructor's assigned section number. Instructor(s): Staff

Prerequisite(s): successful fulfillment of the BSD teaching requirement and consent of instructor.

#### EVOL 49600. Graduate Readings in Evolutionary Biology at the Field Museum. 300.00 Units.

Directed individual reading courses supervised by CEB faculty members who are curators at the Field Museum. Students must choose the instructor name from the faculty listing in the Time Schedules and register using that instructor's assigned section number.

Instructor(s): Staff

Prerequisite(s): Consent of instructor.

#### EVOL 49700. Graduate Readings in Evolutionary Biology. 300.00 Units.

Directed individual reading courses in evolutionary biology supervised by CEB faculty members. Students must choose the instructor name from the faculty listing in the Time Schedules and register using that instructor's assigned section number. Instructor(s): Staff.

Prerequisite(s): consent of instructor.

#### EVOL 49800. Off-Campus Grad Rsch: Evolution. 300.00 Units.

Advanced research under the direction of the faculty of the Committee on Evolutionary Biology, undertaken away from the University of Chicago campus at the Field Museum, the Chicago Zoological Park, Lincoln Park Zoo, established biological field stations under the direction of their staffs, or other locations approved by the Chair and the student's advisory committee. Students must choose the instructor name from the faculty listing in the Time Schedules and register using that instructor's assigned section number.

Instructor(s): Staff

Prerequisite(s): Consent of Instructor

#### EVOL 49900. Graduate Research - On Campus. 300.00 Units.

Advanced research under the direction of the faculty of the Committee on Evolutionary Biology. While any approved research problem may be pursued under this course number, special attention is called to the following research fields available in the Committee: population ecology and genetics, entomology, applied ecology, plant biology, systematics of fossil invertebrates, molluscs, problems in the systematics of arthropods, herpetology, mammalogy, ornithology, and ichthyology, theoretical biology, animal behavior, paleoecology, molecular evolution, functional morphology, evolution of development, community ecology and evolution, evolutionary paleobiology and macroevolution, and physiological ecology. Students must choose the instructor name from the faculty listing in the Time Schedules and register using that instructor's assigned section number.

Instructor(s): Staff

Prerequisite(s): Consent of Instructor

EVOL 70000. Advanced Study: Evolutionary Biology. 300.00 Units. Advanced Study: Evolutionary Biology



# Committee on Genetics, Genomics, and Systems Biology

Chair

Marcelo Nobrega

Professors

- Erin Adams, Biochemistry and Molecular Biology
- Graeme Bell, Medicine, Endocriniology
- Joy Bergelson, Ecology & Evolution
- Douglas K. Bishop, Radiation & Cellular Oncology
- Anna DiRienzo, Human Genetics
- M. Eileen Dolan, Medicine, Hematology/Oncology
- Wei Du, Ben May Department for Cancer Research
- Richard Fehon, Molecular Genetics & Cell Biology
- Edwin L. Ferguson, Molecular Genetics & Cell Biology
- Yoav Gilad, Human Genetics
- T. Conrad Gilliam, Human Genetics
- Benjamin Glick, Molecular Genetics & Cell Biology
- Michael Glotzer, Molecular Genetics & Cell Biology
- Christopher Gomez, Neurology
- Jean Greenberg, Molecular Genetics & Cell Biology
- Robert Grossman, Medicine, Computational Biomedicine and Biomedical Data Science
- Chuan He, Chemistry
- Barbara Kee, Pathology
- Martin Kreitman, Ecology & Evolution
- Stephen J. Kron, Molecular Genetics & Cell Biology
- Bruce T. Lahn, Human Genetics
- Manyuan Long, Ecology & Evolution
- Mary Sara McPeek, Statistics
- Marcelo Nobrega, Human Genetics
- John Novembre, Human Genetics
- Carole Ober, Human Genetics
- Olufunmilayo Olopade, Medicine, Hematology/Oncology
- Rama Ranganathan, Biochemistry & Molecular Biology
- Ilaria Rebay, Ben May Department for Cancer Research
- John Reinitz, Statistics
- Marsha Rosner, Ben May Department for Cancer Research
- Lucia Rothman-Denes, Molecular Genetics & Cell Biology
- Michael Rust, Molecular Genetics & Cell Biology
- Andrey Rzhetsky, Medicine, Computational Biomedicine and Biomedical Data Science
- Urs Schmidt-Ott, Organismal Biology & Anatomy
- Neil H. Shubin, Organismal Biology & Anatomy
- Jonathan P. Staley, Molecular Genetics & Cell Biology
- Matthew Stephens, Human Genetics
- Francois Spitz, Human Genetics
- Joseph W. Thornton, Ecology & Evolution
- Aaron Turkewitz, Molecular Genetics & Cell Biology
- Xiaoxi Zhuang, Neurobiology
- Yingming Zhao, Ben May Department for Cancer Research

# Associate Professors

- Luis Barreiro, Medicine, Genetic Medicine
- D. Allan Drummond, Biochemistry & Molecular Biology
- Tong-Chuan He, Surgery

- · Fotini Gounari, Medicine, Rheumatology
- Jocelyn Malamy, Molecular Genetics & Cell Biology
- Ivan Moskowitz, Pediatrics
- Edwin Munro, Molecular Genetics & Cell Biology
- Alex Ruthenburg, Molecular Genetics & Cell Biology
- Savas Tay, Molecular Engineering

#### Assistant Professors

- Anindita Basu, Medicine, Genetic Medicine
- Jeremy Berg, Human Genetics
- Ishanu Chattopadhyay, Medicine
- Mengjie Chen, Medicine, Genetic Medicine
- Nicholas Chevrier, Pritzker School of Molecular Engineering
- Andrew Dahl, Medicine, Genetic Medicine
- Xin He, Human Genetics
- Ellie Heckscher, Molecular Genetics & Cell Biology
- Hae Kyun Im, Medicine, Genetic Medicine
- Evgeny Izumchenko, Medicine, Hemaology/Oncology
- Andrew Koh, Pathology
- Paschalis Kratsios, Neurobiology
- Heng-Chi Lee, Molecular Genetics & Cell Biology
- Yang Li, Medicine, Genetic Medicine
- Xuanyao Liu, Medicine, Genetic Medicine
- Heather Marlow, Organismal Biology & Anatomy
- Megan McNerney, Pathology
- David Pincus, Molecular Genetics & Cell Biology
- Maanasa Raghavan, Human Genetics
- Matthias Steinrücken, Ecology & Evolution
- Joshua Weinstein, Medicine, Genetic Medicine
- Lixing Yang, Ben May Department for Cancer Research
- Xiaochang Zhang, Human Genetics

# FOR INFORMATION ON THE COMMITTEE ON GENETICS, GENOMICS & SYSTEMS BIOLOGY PLEASE SEE OUR WEBSITE: http://ggsb.uchicago.edu/

The Committee on Genetics, Genomics & Systems Biology (https://ggsb.uchicago.edu/) (GGSB) is an interdisciplinary PhD granting program that brings together over 60 training faculty (https://ggsb.uchicago.edu/research/) representing numerous departments at the University of Chicago. The GGSB program is aimed at training PhD scholars for careers as independent scientists in basic and applied biomedical research and education, leading to Doctor of Philosophy in Genetics. Our PhD training program combines a foundation in modern genetic analysis with training in current methods for formulating and addressing biological questions in the context of complex systems. The presence of both basic and clinical sciences in the Division of Biological Sciences enhances the Committee's broad interdisciplinary approach to teaching and research. GGSB provides an exciting environment to pursue rigorous, high quality training with flexibility in designing programs to meet individual needs. GGSB's goal is to provide an intellectually stimulating, collegial, and supportive environment for students to progress smoothly from research training to careers as independent scientists.

Curriculum and Timeline - First Year (https://ggsb.uchicago.edu/page/curriculum-timeline-first-year/)

Formal Coursework: Choice of Two GGSB Tracks: Empirical Track (https://ggsb.uchicago.edu/page/ggsbempirical-track-coursework/) or Computational Track (https://ggsb.uchicago.edu/page/ggsb-computational-trackcoursework/)

To obtain a Ph.D. in the Division of Biological Sciences, nine graded courses are required as detailed below.

GGSB has two tracks, 1) "Empirical Track (https://ggsb.uchicago.edu/page/ggsb-empirical-track-coursework/)" and 2) "Computational Track (https://ggsb.uchicago.edu/page/ggsb-computational-track-coursework/)". While the two tracks are united by the common goals of using genetic, genomic, and systems biology approaches to address important biological questions, the training focuses are different. Training in the "Empirical Track (https://ggsb.uchicago.edu/page/ggsb-empirical-track-coursework/)" is emphasizes experimental techniques, especially those quantitative in nature, while the "Computational Track (https://ggsb.uchicago.edu/page/ggsb-computational-track-coursework/)" trains students in building computational skills.
#### GGSB EMPIRICAL TRACK - FOUR [4] REQUIRED COURSES AND FOUR [4] ELECTIVES PLUS TWO [2] ROTATIONS

Training under the Empirical Track is focused on experimental techniques.

There are five suggested specializations to choose from for students interested in concentrating in the Empirical Track: 1) Model Systems, 2) Population Genetics, 3) Human Genetics, 4) Developmental Genetics, and 5) Genomics & Systems Biology. These five course tracks are suggestions. GGSB encourages students to explore other areas of interest as well.

For the Empirical Track, four [4] required courses and four [4] graded electives must be taken, one of which may be a reading course. The electives can be selected according to the student's interests and the availability of courses.

Four Required Courses:

Genetic Analysis of Model Organisms AND Genomics and Systems Biology

Plus One of the Following Two Courses: Molecular Biology I OR Molecular Biology II

Plus One of the Following Four Courses: Fundamentals of Molecular Evolution **OR** Principles of Population Genetics I **OR** Evolutionary Genomics **OR** Human Variation & Disease

#### GGSB COMPUTATIONAL TRACK – THREE [3] REQUIRED COURSES AND THREE [3] CORE ELECTIVES PLUS TWO [2] ADDITIONAL ELECTIVES PLUS TWO [2] ROTATIONS

Computational, mathematical, and statistical tools are essential to research in the biological sciences. The University of Chicago has had a long tradition of excellence in these areas, and to continue that tradition, GGSB has developed a focused curriculum to train students in these areas.

There are four suggested specializations for this track: 1) Population Genetics & Evolution, 2) Statistical Genetics, 3) Computational Genomics, and 4) Computational Cell Biology. GGSB encourages students to explore other areas of interest as well.

The Computational track curriculum trains students to address fundamental biological questions and to master the three skillsets that are essential to computational genomics research: probabilistic modeling, statistical inference, and computational algorithms & data structures. This curriculum is also unique in its focus on communication skills, both in terms of writing and speaking. This emphasis emerges from a perspective that computational biologists need to clearly explain complex algorithms and results in order to both effectively share their research products and to collaborate with diversely trained colleagues.

For additional information please click here to view the Doctoral Training in Computational Genomics (http:// compbio.uchicago.edu/) website.

Three [3] Required Courses in Computational Biology and Statistics: Statistical Theory and Methods I AND Fundamentals of Computational Biology: Models and Inference AND Fundamentals of Computational Biology: Algorithms and Applications

AND Three [3] Core Elective Courses Chosen from the Following List: Human Genetics I OR Genetic Analysis of Model Organisms OR Introductory Statistical Genetics OR Principles of Population Genetics I OR Evolution of Biological Molecules OR Biophysics of Biomolecules OR Human Variation and Disease OR Genomics and Systems Biology OR Quantitative Analysis of Biological Dynamics

PLUS Two [2] Additional Elective Courses Chosen From the Following List: Fundamentals of Cell and Molecular Biology OR Applied Linear Statistical Methods OR Topics in Statistical Machine Learning OR Computational Systems Biology OR Mathematical Computation I – Matrix Computation OR Introduction to Scientific Computing for Biologists OR Fundamentals of Genetics OR Statistical Theory and Methods II OR Multivariate Statistical Analysis: Applications and Techniques OR Theoretical Ecology OR Pattern Recognition OR Bayesian Analysis and Principles of Statistics OR Statistical Genetics OR Machine Learning

#### Rotations

Students undertake short research projects in at least two different laboratories before beginning their dissertation research. The purpose of the rotation is to expose the student to different research environments, broaden his/her acquaintance with useful laboratory techniques, and introduce him/her to the conceptual framework of experimental design. The distribution of course offerings makes it difficult for students to undertake rotations in Autumn Quarter of the first academic year. Therefore, rotations are performed in the winter or spring and summer quarters. The winter and spring rotations last 10 weeks to coincide with the academic quarter. The summer rotation lasts 5 weeks, when the student is able to devote full-time to research. Students wishing to do a third rotation may do so during the second half of Summer Quarter.

#### Application

For information about applying to our graduate program, please visit:https://apply-bsd.uchicago.edu/apply/.

Curriculum and Timeline - Second Year (https://ggsb.uchicago.edu/page/curriculum-timeline-second-year/)

At the beginning of the second year of training, students choose a research advisor. Most of the second year is spent developing a research project. A Thesis Advisory Committee is chosen by the student in consultation with his/her mentor

and the GGSB Student Advisory Committee. A written research proposal is provided to the Thesis Advisory Committee in advance of the first committee meeting. During this meeting, the student will present and defend his/her proposal. This first meeting constitutes the Qualifying Exam for Ph.D. candidacy. Following Qualifying Exam, the Thesis Advisory Committee meets with, and advises the student on a regular basis throughout the remainder of his/her training.

#### Curriculum and Timeline - Advanced Years (https://ggsb.uchicago.edu/page/curriculum-timeline-advancedyears/)

After passing the Qualifying Exam and throughout the duration of their of their studies, students conduct full-time thesis research while continuing to attend seminars, journal clubs, and other educational meetings. Students are welcome to audit courses in which they have an interest. Finally, each graduating student writes a dissertation culminating in a public Thesis Defense.

#### Application

For information about applying to our graduate program, please visit:https://apply-bsd.uchicago.edu/apply/.

#### Genetics Courses

# GENE 31800. Current Topics in Genetics. 50 Units.

This course will expose student to current research topics in genetics for the bi-monthly GGSB Invited Seminar Series. This is a required ½ credit course for all GGSB students and will be graded Pass/Fail. Winter, Spring

#### GENE 31900. Introduction to Research. 100 Units.

Lectures on current research by departmental faculty and other invited speakers. A required course for all first-year graduate students.

Instructor(s): Staff Terms Offered: Autumn, Winter

Equivalent Course(s): BCMB 31900, DVBI 31900, MGCB 31900, HGEN 31900

# GENE 35400. Advanced Developmental Biology. 100 Units.

This course provides both an overview of developmental biology and an in-depth coverage of selected topics, emphasizing the origins of classical concepts in the field as well as modern molecular and genetic approaches to the study of developmental processes. Subjects include cell fate determination, growth control, stem cells, signal transduction, neurogenesis, and cell polarity in developing systems. Underlying mechanisms are illuminated through discussion of key experiments. Discussion sections cover selected papers from the developmental biology literature, with emphasis on critical evaluation of experimental evidence.

Instructor(s): 'E. Ferguson, R. Fehon' Terms Offered: Winter Prerequisite(s): 'BIOS 20182, 20192, or 20235' Equivalent Course(s): BIOS 21227

#### GENE 39900. Readings: Genetics. 300.00 Units.

A course designed by a student and faculty member. All reading courses must be approved by the Curriculum/Student Affairs Committee prior to registration.

Terms Offered: Summer, Autumn, Winter, Spring

#### GENE 40100. Thesis Research: Genetics. 300.00 Units.

Thesis Research: Genetics Instructor(s): Gilad Terms Offered: Summer, Autumn, Winter, Spring

#### GENE 40200. Non-Thesis Research: Genetics. 300.00 Units.

# Non-Thesis Research: Genetics

Instructor(s): Gilad Terms Offered: Summer, Autumn, Winter, Spring



# Department of Human Genetics

Chair, Department of Human Genetics: Carole Ober Human Genetics PhD Program Chair, Anna DiRienzo Professors Habibul Ahsan, Public Health Sciences Graeme Bell, Medicine, Endocrinology Soma Das, Human Genetics Anna Di Rienzo, Human Genetics Yoav Gilad, Medicine, Genetic Medicine T. Conrad Gilliam, Human Genetics Lucy Godley, Medicine, Medicine, Hematology/Oncology Bruce T. Lahn, Human Genetics Michelle Le Beau, Medicine Mary Sara McPeek, Statistics Ivan Moskowitz, Pediatrics, Cardiology Dan L. Nicolae, Statistics Marcelo Nobrega, Human Genetics John Novembre, Human Genetics Carole Ober, Human Genetics Olufunmilayo Olopade, Medicine Andrey Rzhetsky, Medicine, Computational Biomedicine and Biomedical Data Science Francois Spitz, Human Genetics

- Matthew Stephens, Human Genetics
- Joseph Thornton, Ecology and Evolution
- Olufunmilayo Olopade, Medicine, Hematology/Oncology
- Darrel J. Waggoner, Human Genetics

#### Associate Professors

- Luis Barreiro, Medicine, Genetic Medicine
- D. Allan Drummond, Biochemistry and Molecular Biology
- Brandon Pierce, Public Health Services

Research Associate Professors

Mark Abney, Human Genetics

Assistant Professors

- Jeremy Berg, Human Genetics
- Mengjie Chen, Medicine, Genetic Medicine
- Daniela Del Gaudio, Human Genetics
- Xin He, Human Genetics
- Hae Kyung Im, Medicine, Genetics Medicine
- Yang Li, Medicine, Genetic Medicine
- Maanasa Raghavan, Human Genetics
- Matthias Steinrücken, Ecology & Evolution
- · Lixing Yang, Ben May Department for Cancer Research
- Xiaochang Zhang, Human Genetics

# FOR INFORMATION ON THE HUMAN GENETICS PHD PROGRAM PLEASE SEE OUR WEBSITE: https://hgen.uchicago.edu/

#### FOR INFORMATION ON THE DEPARTMENT OF HUMAN GENETICS PLEASE SEE OUR WEBSITE: https://genes.uchicago.edu/about-human-genetics (https://genes.uchicago.edu/about-human-genetics/)

The graduate program in Human Genetics (https://hgen.uchicago.edu/) (HG) is the home within the Division of Biological Sciences for the study of basic principles of genetics and genomics as applied to human phenotypes. We provide broad training in experimental and computational genetics and genomics, statistical and population genetics, bioinformatics,

and clinical genetics. A common theme throughout our research is the application of basic genetic principles and strategies to the study of disease mechanism, disease susceptibility, and the genetic architecture of complex traits. Within this framework, the goals of our program are to:

- Educate students broadly in the basic concepts and practices of human genetics and the disciplines of genomics, population genetics, bioinformatics and systems biology.
- Introduce students to the growing importance of evolutionary concepts and insights to the study of human disease and genetic variation.
- Prepare students for a new world of genetic medicine that will follow basic discoveries in our understanding of multifactorial inheritance.

Curriculum and Timeline - First Year (https://hgen.uchicago.edu/program/)

Formal Coursework: Choice of Two Tracks: Empirical Track (https://hgen.uchicago.edu/page/human-geneticsempirical-track-coursework/) or Computational Track (https://hgen.uchicago.edu/page/human-genetics-computational-trackcoursework/)

To obtain a Ph.D. in the Division of Biological Sciences, nine graded courses are required as detailed below.

HG has two tracks, 1) "Empirical Track (https://hgen.uchicago.edu/page/human-genetics-empirical-trackcoursework/)" and 2) "Computational Track (https://hgen.uchicago.edu/page/human-genetics-computational-trackcoursework/)". While the two tracks are united by the common goals of using genetic, genomic, and systems biology approaches to address important biological questions, the training focuses are different. Training in the "Empirical Track (https://hgen.uchicago.edu/page/human-genetics-empirical-track-coursework/)" emphasizes experimental techniques, especially those quantitative in nature, while the "Computational Track (https://hgen.uchicago.edu/page/human-geneticscomputational-track-coursework/) " trains students in building computational skills.

#### HG EMPIRICAL TRACK - THREE [3] REQUIRED COURSES AND ONE [1] CORE ELECTIVE COURSE AND FOUR [4] ELECTIVE COURSES PLUS TWO [2] ROTATIONS.

Training under the Empirical Track is focused on experimental techniques.

Three [3] Required Courses: HGEN 47400 Human Genetics I AND HGEN 46900 Human Variation and Disease

Plus One [1] of the Following Core Elective Courses: HGEN 47100 Intro Statistical Genetics OR HGEN 31100 Evolution of Biological Molecules OR HGEN 48600 Fundamentals of Computational Biology: Models and Inference OR ECEV 35600 Principles of Population Genetics I OR HGEN 47300 Genomics and Systems Biology OR MGCB 31300 Molecular Biology II OR MGCB 31400 Genetic Analysis of Model Organisms OR DVBI 36400 Developmental Mechanisms

Plus Four [4] Elective Courses: The electives can be selected according to the student's interests and the availability of courses

#### HG COMPUTATIONAL TRACK – THREE [3] REQUIRED COURSES AND THREE [3] CORE ELECTIVES PLUS TWO [2] ADDITIONAL ELECTIVES PLUS TWO [2] ROTATIONS

The Computational Track (https://hgen.uchicago.edu/page/human-genetics-computational-track-coursework/) curriculum trains students to address fundamental biological questions and to master the three skill sets that are essential to computational genomics research: probabilistic modeling, statistical inference, and computational algorithms & data structures. This curriculum is also unique in its focus on communication skills, both in terms of writing and speaking. This emphasis emerges from a perspective that computational biologists need to clearly explain complex algorithms and results in order both to effectively share their research products and to collaborate with diversely trained colleagues.

For additional information please click here to view the Doctoral Training in Computational Genomics (http:// compbio.uchicago.edu/) website.

Three [3] Required Courses in Computational Biology and Statistics: Statistical Theory and Methods I AND Fundamentals of Computational Biology: Models and Inference AND Fundamentals of Computational Biology: Algorithms and Applications

AND Three [3] Core Elective Courses Chosen from the Following List: Human Genetics I OR Genetic Analysis of Model Organisms OR Introductory Statistical Genetics OR Principles of Population Genetics I OR Evolution of Biological Molecules OR Biophysics of Biomolecules OR Human Variation and Disease OR Genomics and Systems Biology OR Quantitative Analysis of Biological Dynamics

PLUS Two [2] Additional Elective Courses Chosen From the Following List: Fundamentals of Cell and Molecular Biology OR Applied Linear Statistical Methods OR Topics in Statistical Machine Learning OR Computational Systems Biology OR Mathematical Computation I – Matrix Computation OR Introduction to Scientific Computing for Biologists OR Fundamentals of Genetics OR Statistical Theory and Methods II OR Multivariate Statistical Analysis: Applications and Techniques OR Theoretical Ecology OR Pattern Recognition OR Bayesian Analysis and Principles of Statistics OR Statistical Genetics OR Machine Learning

#### Rotations

Students undertake short research projects in at least two different laboratories before beginning their dissertation research. The purpose of the rotation is to expose the student to different research environments, broaden his/her acquaintance with useful laboratory techniques, and introduce him/her to the conceptual framework of experimental design. The distribution of course offerings makes it difficult for students to undertake rotations in Autumn Quarter of the first academic year. Therefore, rotations are performed in the winter or spring and summer quarters. The winter and spring rotations last 10 weeks to coincide with the academic quarter. The summer rotation lasts 5 weeks, when the student is able to devote full-time to research. Students wishing to do a third rotation may do so during the second half of Summer Quarter.

Curriculum and Timeline - Second Year (https://hgen.uchicago.edu/program/)

Students spend the second year developing a research project and preparing a written proposal of dissertation research. This proposal is defended before a qualifying examination committee at the end of the academic year. Students satisfy any remaining course requirements and complete at least one of the two required Teaching Assistantships during this year.

#### Curriculum and Timeline - Advanced Years (https://hgen.uchicago.edu/program/)

After the qualifying exam, the student performs full-time thesis research while continuing to participate in program events such as seminars, journal clubs, etc. Students are welcome to audit courses in which they have an interest. Finally, in the final year of the program the student writes a dissertation describing his/her research, presents the work in a public seminar and defends it before his/her faculty examining committee. Please view the Human Genetics Handbook for a full description of the academic program and the courses available to our students.

# Application

For information about applying to our graduate program, please visit:https://apply-bsd.uchicago.edu/apply/. (http:// collegecatalog.uchicago.edu/graduate/departmentofhumangenetics/%20https://apply-bsd.uchicago.edu/apply/.html)

# Human Genetics Courses

#### HGEN 30100. Appl of Scientific Advncmt to Disease Detection & Management. 75 Units.

#### HGEN 30400. Protein Fundamentals. 100 Units.

The course covers the physical chemical phenomena that define protein structure and function. Topics include: threedimensional structures of proteins; the principles of protein folding, molecular motion and molecular recognition; protein evolution, design and engineering; enzyme catalysis; regulation of protein function; proteomics and systems biology. Undergraduates are highly recommended to take BIOS 20200 (Introduction to Biochemistry) or equivalent before taking this course.

Instructor(s): E. Ozkan, J. Piccirilli, D. Arac Terms Offered: Autumn Equivalent Course(s): BCMB 30400, MGCB 30400

## HGEN 31100. Evolution of Biological Molecules. 100 Units.

The course connects evolutionary changes imprinted in genes and genomes with the structure, function and behavior of the encoded protein and RNA molecules. Central themes are the mechanisms and dynamics by which molecular structure and function evolve, how protein/ RNA architecture shapes evolutionary trajectories, and how patterns in present-day sequence can be interpreted to reveal the interplay data of evolutionary history and molecular properties. Core concepts in macromolecule biochemistry (folding and stability of proteins and RNA, structure-function relationships, kinetics, catalysis) and molecular evolution (selection, mutation, drift, epistasis, effective population size, phylogenetics) will be taught, and the interplay between them explored.

Instructor(s): A. Drummond, J. Thornton Terms Offered: Winter

Prerequisite(s): Comfort with basic computer programming (course will use Python and R); undergraduate biology, chemistry, calculus, and introductory statistics.

Equivalent Course(s): ECEV 31100, BCMB 31100

#### HGEN 31400. Genetic Analysis of Model Organisms. 100 Units.

Fundamental principles of genetics discussed in the context of current approaches to mapping and functional characterization of genes. The relative strengths and weaknesses of leading model organisms are emphasized via problem-solving and critical reading of original literature.

Equivalent Course(s): DVBI 31400, BCMB 31400, MGCB 31400

#### HGEN 31600. Cell Biology I. 100 Units.

Eukaryotic protein traffic and related topics, including molecular motors and cytoskeletal dynamics, organelle architecture and biogenesis, protein translocationand sorting, compartmentalization in the secretory pathway, endocytosis and exocytosis, and mechanisms and regulation of membrane fusion. Instructor(s): A. Turkewitz, B. Glick Terms Offered: Autumn Equivalent Course(s): BCMB 31600, MGCB 31600, DVBI 31600

#### HGEN 31800. Current Topics in Human Genetics. 50 Units.

This course will expose student to current research topics in Human Genetics through the Seminar Series. This is a required <sup>1</sup>/<sub>2</sub> credit course for all Human Genetics students and will be graded Pass/Fail. (Autumn, Winter, Spring) Instructor(s): Ann Di Rienzo Terms Offered: Autumn Spring Winter

#### HGEN 31900. Introduction to Research. 100 Units.

Lectures on current research by departmental faculty and other invited speakers. A required course for all first-year graduate students.

Instructor(s): Staff Terms Offered: Autumn, Winter

Equivalent Course(s): BCMB 31900, DVBI 31900, MGCB 31900, GENE 31900

#### HGEN 36400. Molecular Phylogenetics. 100 Units.

While evolution by natural selection is an elegantly simple phenomenon, modern research in evolutionary biology contains a variety of controversial, and sometimes confusing, topics. In this course, we will explore, as a group, a select list of controversial or confusing topics in evolutionary biology through a mix of student-led presentations and discussion of the primary literature. Each student will also write a review paper about his or her selected topic.

Instructor(s): J. Thornton, A. Drummond Terms Offered: Spring. offered in alternate (even) years

Note(s): not offered in 2018-19

Equivalent Course(s): ECEV 36400, ORGB 36400

#### HGEN 39900. Topics: Human Genetics. 300.00 Units.

# HGEN 40300. Non-Thesis Rsch: Human Genetics. 300.00 Units.

Research conducted by graduate students prior to the qualifying exam.

# HGEN 40400. Thesis Research. 300.00 Units.

Dissertation Research conducted by graduate students. Instructor(s): A DiRienzo Terms Offered: Autumn Spring Summer Winter

# HGEN 46900. Human Variation and Disease. 100 Units.

This course focuses on principles of population and evolutionary genetics and complex trait mapping as they apply to humans. It will include the discussion of genetic variation and disease mapping data.

# HGEN 47000. Human Genetics-1. 100 Units.

This course covers classical and modern approaches to studying cytogenic, Mendelian, and complex diseases. Topics include chromosome biology, single gene and complex disease, non-Mendelian inheritance, cancer genetics, human population genetics, and genomics. The format includes lectures and student presentations.

Instructor(s): C. Ober, M. Nobrega, D. Waggoner

# HGEN 47300. Genomics and Systems Biology. 100 Units.

This lecture course explores technologies for high-throughput collection of genomic-scale data, including sequencing, genotyping, gene expression profiling, and assays of copy number variation, protein expression and protein-protein interaction. In addition, the course will cover study design and statistic analysis of large data sets, as well as how data from different sources can be used to understand regulatory networks, i.e., systems. Statistical tools that will be introduced include linear models, likelihood-based inference, supervised and unsupervised learning techniques, methods for assessing quality of data, hidden Markov models, and controlling for false discovery rates in large data sets. Readings will be drawn from the primary literature. Evaluation will be based primarily on problem sets.

Instructor(s): Y. Gilad Terms Offered: Spring

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235 and STAT 23400 or BIOS 26210 and BIOS 26211

Equivalent Course(s): BPHS 47300, IMMU 47300, CABI 47300, BIOS 28407

# HGEN 47400. Introduction to Probability and Statistics for Geneticists. 100 Units.

This course is an introduction to basic probability theory and statisticalo methods useful for people who intend to do research in genetics or a similar scientific field. Topics include random variable and probability distributions, descriptive statistics, hypothesis testing and parameter estimation. Problem sets and tests will include both solving problems analytically and analysis of data using the R statistical computing environment.

Instructor(s): M. Abney Terms Offered: Autumn

#### HGEN 48600. Fundamentals of Computational Biology: Models and Inference. 100 Units.

Covers key principles in probability and statistics that are used to model and understand biological data. There will be a strong emphasis on stochastic processes and inference in complex hierarchical statistical models. Topics will vary but the typical content would include: Likelihood-based and Bayesian inference, Poisson processes, Markov models, Hidden Markov models, Gaussian Processes, Brownian motion, Birth-death processes, the Coalescent, Graphical models, Markov processes on trees and graphs, Markov Chain Monte Carlo.

Instructor(s): J. Novembre, M. Stephens Terms Offered: Winter

Prerequisite(s): STAT 244

Equivalent Course(s): STAT 35450

### HGEN 48800. Fundamentals of Computational Biology: Algorithms and Applications. 100 Units.

This course will cover principles of data structure and algorithms, with emphasis on algorithms that have broad applications in computational biology. The specific topics may include dynamic programming, algorithms for graphs, numerical optimization, finite-difference, schemes, matrix operations/factor analysis, and data management (e.g. SQL, HDF5). We will also discuss some applications of these algorithms (as well as commonly used statistical techniques) in genomics and systems biology, including genome assembly, variant calling, transcriptome inference, and so on. Instructor(s): Xin He, Mengjie Chen Terms Offered: Spring

Equivalent Course(s): STAT 35460

HGEN 70000. Advanced Study: Human Genetics. 300.00 Units. Advanced Study: Human Genetics



# Committee on Immunology

Chair

Alexander Chervonsky

Professors

- Erin Adams, Biochemistry and Molecular Biology
- Maria Luisa Alegre, Medicine
- John Alverdy, Surgery
- Albert Bendelac, Pathology
- Eugene Chang, Medicine
- Alexander Chervonsky, Pathology
- Anita Chong, Surgery
- Marcus Clark, Medicine
- Aaron Dinner, Chemistry
- Michaela Gack, Microbiology
- Thomas Gajewski, Pathology and Medicine
- Yoav Gilad, Human Genetics
- Tatyana Golovkina, Microbiology
- Chuan He, Chemistry
- Jeffrey Hubbell, Pritzker School of Molecular Engineering
- Bana Jabri, Medicine
- Rima McLeod, Surgery
- Cathryn Nagler, Pathology
- Eric Pamer, Medicine
- Glenn Randall, Microbiology
- Anthony Reder, Neurology
- Raymond Roos, Neurology
- Hans Schreiber, Pathology
- Melody Swartz, Pritzker School of Molecular Engineering

Associate Professors

- Luis Barreiro, Medicine
- Aaron Esser-Kahn, Pritzker School of Molecular Engineering
- Fotini Gounari, Medicine
- Barbara Kee, Pathology
- Peter Savage, Pathology
- Anne I. Sperling, Medicine
- Patrick Wilson, Medicine

Assistant Professors

- Nicolas Chevrier, Pritzker School of Molecular Engineering
- Daria Esterhazy, Pathology
- Jun Huang, Pritzker School of Molecular Engineering
- Justin Kline, Medicine
- Andrew Koh, Pathology
- Samantha Riesenfeld, Pritzker School of Molecular Engineering
- Randy Sweis, Medicine

The Committee on Immunology offers a graduate program of study leading to the Doctor of Philosophy degree in Immunology. The committee is dedicated to the open exchange of ideas among scholars of all fields, a commitment enhanced by an organizational structure that completely integrates the basic biological sciences with the clinical sciences. This multidisciplinary and integrated approach corresponds well with the reality of the new biology, where molecular and structural techniques are applied widely and with great success to clinical problems.

The Committee on Immunology is a member of the Biomedical Sciences Cluster, which also includes graduate programs from the Committee on Cancer Biology, Committee on Microbiology, and the Committee on Molecular Metabolism and Nutrition. The four academic units share several common courses, a seminar series and additional common events for students and faculty within the cluster. The goal of the cluster system is to encourage interdisciplinary interactions among both trainees and faculty, and to allow students flexibility in designing their particular course of study.

In addition to formal course work, the Committee on Immunology sponsors a weekly seminar series, an annual retreat where students and faculty present their research, and several focused group meetings.

# Admission

Prospective students interested in obtaining the Ph.D. in Immunology should submit an application to the Biological Sciences Division by December 1st of each year; indicate their cluster of interest as Biomedical Sciences and select Immunology as their proposed degree program.

# The Degree of Doctor of Philosophy

Ph.D. requirements include:

- Completion of 9 course credits consisting of basic science, immunology and elective courses.
- A preliminary examination.
- A dissertation based on original research.
- A final thesis examination.

#### Committee on Immunology Courses

Immunopathology	100
Molecular Immunology	100
Readings: Immunobiology	100
Directed Readings in Cancer Immunology	100
BMSC All Stars	50
Ethics in Scientific Research	50
Host Pathogen Interactions	100
Advanced Immunology I	100
Advanced Immunology II	100
Intro Exprmntl Immunology	100
Research: Immunology	300
Experimental Immunology	50
Genomics and Systems Biology	100
Advanced Study: Immunology	300
	ImmunopathologyMolecular ImmunologyReadings: ImmunobiologyDirected Readings in Cancer ImmunologyBMSC All StarsEthics in Scientific ResearchHost Pathogen InteractionsAdvanced Immunology IAdvanced Immunology IIIntro Exprmntl ImmunologyResearch: ImmunologyExperimental ImmunologyGenomics and Systems BiologyAdvanced Study: Immunology



# Graduate Program in Integrative Biology

# Chair: Robert K. Ho

# Director of Graduate Studies: Mark Westneat

#### Professors

- Zeray Alemseged
- Michael I. Coates
- Martin Feder
- Edwin L. Ferguson, Molecular Genetics & Cell Biology
- Melina E. Hale
- Nicholas G. Hatsopoulos
- Robert K. Ho
- David Jablonski, Geophysical Sciences
- Raphael Lee, Surgery
- Zhe-Xi Luo
- Daniel Margoliash
- Nipam Patel, Marine Biological Laboratory
- Victoria E. Prince
- Clifton Ragsdale, Neurobiology
- Callum Ross
- Paul Sereno
- Neil H. Shubin
- Mark Westneat

Associate Professors

- Sliman Bensmaia
- Marcus Kronforst, Ecology & Evolution
- Stephanie Palmer
- Urs Schmidt-Ott

Assistant Professors

- Matthew Kaufman
- Heather Marlow
- Graham Slater, Geosciences

Emeritus Faculty

- James A. Hopson
- Michael LaBarbera
- R. Eric Lombard

The graduate program in integrative biology is housed in the Department of Organismal Biology and Anatomy (OBA), which has a long history of training students in integrative organismal biology. During the 1970s, the focus of the (then) Department of Anatomy shifted from the classic purview of anatomy departments in the middle of the 20th century histology, neurobiology, and cell biology - to more comparative and functionally oriented topics and an explicit focus on evolutionary biology and functional morphology. The neurobiology section of the department expanded first into explicitly comparative areas and later into neuroethology. Over the next twenty years the department evolved into its present configuration with research and teaching foci which include biomechanics/functional morphology, organismal neurobiology, developmental biology, and evolutionary biology, all unified by a shared reference point in the biological hierarchy --- the organism — an entity we see as the natural reference for all of the biological sciences since it is the natural unit of selection. We see the intellectual areas presently housed in OBA as inextricably and naturally connected. To understand the organismal level in biology requires an understanding of both how organisms have been shaped over evolutionary time scales and how they are generated on developmental time scales, the various interacting tissue and organ systems that generate organismal functions, and the mutual feedback among these functional, evolutionary, and developmental processes. The high degree of connectivity among our core disciplines is exemplified by the integrative nature of student dissertation projects in OBA and by the high level of interaction and collaboration among our faculty; both faculty and graduate student research in OBA frequently span several of these areas. In recent years there has been a resurgence of interest in and appreciation for organismal-level biology on the national level, putting molecular, genetic, and computational tools and information to use to

understand broader systems-level questions. OBA and its integrative biology program has been actively positioning itself as a leader in research and graduate training in this endeavor.

Research and training in the graduate program focus on the integration of four overlapping areas:

- 1. Biomechanics: the application of methods from engineering and physics to understanding the design of organisms.
- Developmental Biology: understanding how information coded into the genome is translated into the patterns seen in organisms. Our developmental biology program has a special emphasis on the interface between evolution and development, an area sometimes called "EvoDevo".
- 3. Neurobiology: understanding how the nervous system regulates and controls the behavior of animals. Our neurobiology program has a special emphasis on the relationship of the nervous system to behavior (or neuroethology) and the application of quantitative methods to understanding neural function (computational neuroscience).
- Paleontology: documenting and understanding evolutionary patterns and processes through analyses of the fossil record.

Training in the department places an emphasis on familiarity with a broad range of ideas and skills in organismal biology. Although students can conduct research in any of the areas represented in the department, they are encouraged to develop research programs that capitalize on the talents of two or more faculty members with different perspectives. The department also encourages students to interact with other units on campus (such as the Department of Ecology and Evolution and the Committees on Development, Regeneration and Stem Cell Biology; Evolutionary Biology; Genetics, Genomics and Systems Biology; and Neurobiology) as well as the Field Museum of Natural History, the Brookfield and Lincoln Park zoos, the Shedd Aquarium, and the Marine Biological Lab at Woods Hole. Students earning doctorates through the departments, anatomy departments and museums.

# Degrees

# Master of Science

Students are not admitted to the program for the sole purpose of obtaining a Master of Science degree, but this degree is awarded to students from other academic units who require a Master of Science degree as one requirement for the doctorate.

# Doctor of Philosophy

The requirements for the Doctor of Philosophy are as follows:

- Course requirements are individualized and are defined for students early in their stay in the program, based on the student's background and interests. Students will complete a course distribution requirement by the end of their second year. Students must fulfill the divisional requirement of serving as a teaching assistant in two courses and completing ethics training.
- The preliminary examination, consisting of a written segment which covers a range of topics in organismal biology, as well as both the oral and written presentation of a directed research project or dissertation research proposal.
- The completion of a research project and the presentation of a dissertation satisfactory to the department faculty.
- The passing of a final oral examination.

#### Admission

We strongly advise students considering application to the graduate program to begin preparation of their application early in the autumn quarter, so that all materials will arrive by the December 1 deadline. Foreign applicants whose first language is not English also must submit TOEFL test scores with their application materials. Further information also may be obtained from the department's home page at http://integbio.uchicago.edu (http://pondside.uchicago.edu/).

# Courses

Didactic and seminar courses are offered in each of the departmental research foci. The specific courses presented vary from year to year. A list of current courses can be obtained by contacting the graduate program administrator. Students are encouraged to take courses related to their interests in other academic units on campus.

# Organismal Biology and Anatomy Courses

#### ORGB 30001. The Human Body. 125 Units.

The Human Body course is the first component of the Scientific Foundations of Medicine curriculum in Year 1. The Human Body course will provide you with a foundation in the structural organization of the body. You will learn gross anatomy of the back, thorax, abdomen, pelvis, head and neck, and upper and lower limbs through large and small group teaching sessions, as well as cadaver dissection. Correlations with Radiology and Surgery are an integral part of the course and provide real world clinical context for the anatomic material.

Instructor(s): C. Ross Terms Offered: Summer

Note(s): For Pritzker students only, unless by instructor consent

# ORGB 30002. PE: The Human Body. 300.00 Units.

#### ORGB 30250. Chordates: Evolution and Comparative Anatomy. 100 Units.

Chordate biology emphasizes the diversity and evolution of modern vertebrate life, drawing on a range of sources (from comparative anatomy and embryology to paleontology, biomechanics, and developmental genetics). Much of the work is lab-based, with ample opportunity to gain firsthand experience of the repeated themes of vertebrate body plans, as well as some of the extraordinary specializations manifest in living forms. The instructors, who are both actively engaged in vertebrate-centered research, take this course beyond the boundaries of standard textbook content. Instructor(s): M. Coates Terms Offered: Winter, L.

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence, including BIOS 20187 or BIOS 20235 Note(s): Not offered Winter 2019 - Offered Winter 2020 and every other year thereafter. Equivalent Course(s): EVOL 30200, BIOS 22250

#### ORGB 30260. Chordate Evolutionary Biology. 100 Units.

Equivalent Course(s): BIOS 20260

# ORGB 30415. Evolution Before Darwin. 100 Units.

This course will explore the emergence and development of evolutionary thought prior to Charles Darwin's On the Origin of Species (1859). We will pay particular attention to the way in which transformism was a feature of nineteenth-century thought more generally, connecting natural history to astronomy, theology, and the study of humanity. Natural philosophers and later scientists who wished to make arguments concerning nature's deep past and hidden or obscured processes (such as the long-term transformations of stars, strata, and organic species) faced an essential problem: the power of observation and experiment was limited. Our class will interrogate this problem, and examine the way in which the development of evolutionary thought prior to Darwin was intimately connected to contentious debates regarding speculation and scientific method. We will conclude by contemplating the ways in which the ideas and challenges raised by transformism and evolution influenced the reception of Darwin's work, and the way in which these ideas and challenges remain embedded within seemingly disparate fields of study today.

Instructor(s): J. Daly Terms Offered: Winter

Equivalent Course(s): HIST 25316, HIPS 21415, KNOW 21415, ECEV 30415

# ORGB 31201. Mammalian Evolutionary Biology. 100 Units.

This course examines mammalian evolution-the rise of living mammals from ancient fossil ancestors stretching back over 300 million years. Lectures focus on the evolutionary diversification of mammals, including anatomical structure, evolutionary adaptations, life history, and developmental patterns. Labs involve detailed comparative study of mammalian skeletons, dissection of muscular and other systems, trips to the Field Museum to study fossil collections, and studies of human anatomy at the Pritzker School of Medicine. Students will learn mammalian evolution, functional morphology, and development, and will gain hands-on experience in dissection. Taught by instructors who are active in scientific research on mammalian evolution, the course is aimed to convey new insights and the latest progress in mammalian paleontology, functional morphology, and evolution. Prerequisite(s): Second-year standing and completion of a Biological Sciences Fundamentals sequence; or GEOS 13100-13200 or GEOS 22300, or consent of instructors.

Instructor(s): Z. Luo, K. Angielczyk Terms Offered: Autumn. L.

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235; or GEOS 13100-13200 or GEOS 22300, or consent of instructors.

Equivalent Course(s): BIOS 23262, EVOL 31201

# ORGB 31300. Key Issues in Early Vertebrate Evolution. 100 Units.

Equivalent Course(s): EVOL 30300

#### ORGB 32233. Comparative Vertebrate Anatomy. 100 Units.

This course covers the structure and function of major anatomical systems of vertebrates. Lectures focus on vertebrate diversity, biomechanics, and behavior (from swimming and feeding to running, flying, seeing, and hearing). Labs involve detailed dissection of animals (muscles, organs, brains) and a focus on skull bones in a broad comparative context from fishes to frogs, turtles, alligators, mammals, birds, and humans. Field trip to Field Museum and visit to medical school lab for human dissection required.

Instructor(s): M. Westneat. L. Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence.

Note(s): Offered Winter 2019 and every other year thereafter.

Equivalent Course(s): BIOS 22233

# ORGB 32245. Biomechanics: How Life Works. 100 Units.

This course will explore form and function in a diversity of organisms, using the principles of physics and evolutionary theory to understand why living things are shaped as they are and behave in such a diversity of ways. Biomechanics is at the interface of biology, physics, art, and engineering. We will study the impact of size on biological systems, address the implications of solid and fluid mechanics for organismal design, learn fundamental principles of animal locomotion, and survey biomechanical approaches. Understanding the mechanics of biological organisms can help us gain insight into their behavior, ecology and evolution.

Instructor(s): M. Westneat Terms Offered: Spring. L. Spring.

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence. Physics useful.

Note(s): This course will include a lab and will alternate years with BIOS 22233. Equivalent Course(s): BIOS 22245, EVOL 32245

#### ORGB 32500. Survey of Systems Neuroscience. 100 Units.

This lab-centered course teaches students the fundamental principles of vertebrate nervous system organization. Students learn the major structures and the basic circuitry of the brain, spinal cord and peripheral nervous system. Somatic, visual, auditory, vestibular and olfactory sensory systems are presented in particular depth. A highlight of this course is that students become practiced at recognizing the nuclear organization and cellular architecture of many regions of brain in rodents, cats and primates.

Instructor(s): S. Bensmaia Terms Offered: Autumn

Prerequisite(s): NSCI 20130. For Biological Sciences majors: Three quarters of a Biological Sciences fundamentals sequence

Equivalent Course(s): CPNS 30116, NURB 31600, BIOS 24208, NSCI 23500

#### ORGB 33265. Human Origins: Milestones in Human Evolution and the Fossil Record. 100 Units.

This course aims at exploring the fundamentals of human origins by tracking the major events during the course of human evolution. Starting with a laboratory based general introduction to human osteology and muscle function, the latest on morphological and behavioral evidence for what makes Homo sapiens and their fossil ancestors unique among primates will be presented. Our knowledge of the last common ancestor will be explored using the late Miocene fossil record followed by a series of lectures on comparative and functional morphology, adaptation and biogeography of fossil human species. With focus on the human fossil record, the emergence of bipedalism, advent of stone tool use and making, abandonment of arboreality, advent of endurance walking and running, dawn of encephalization and associated novel life histories, language and symbolism will be explored. While taxonomic identities and phylogenetic relationships will be briefly presented, the focus will be on investigating major adaptive transitions and how that understanding helps us to unravel the ecological selective factors that ultimately led to the emergence of our species. The course will be supported by fresh data coming from active field research conducted by Prof. Alemseged and state of the art visualization methods that help explore internal structures. By tracing the path followed by our ancestors over time, this course is directly relevant to reconnoitering the human condition today and our place in nature.

Instructor(s): Z. Alemseged Terms Offered: Autumn

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence, or consent of Instructor. Equivalent Course(s): BIOS 22265, ANTH 28110

# ORGB 33600. Vertebrate Development. 100 Units.

This advanced-level course combines lectures, student presentations, and discussion sessions. It covers major topics on the developmental biology of embryos (e.g. formation of the germ line, gastrulation, segmentation, nervous system development, limb pattering, organogenesis). We make extensive use of the primary literature and emphasize experimental approaches including embryology, genetics, and molecular genetics.

Instructor(s): V. Prince, P. Kratsios. Terms Offered: Spring

Prerequisite(s): For Biological Sciences majors: Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20189 or BIOS 20190

Equivalent Course(s): BIOS 21356, DVBI 35600, MGCB 35600

#### ORGB 33850. Evolution and Development. 100 Units.

The course will provide a developmental perspective on animal body plans in phylogenetic context. The course will start with a few lectures, accompanied by reading assignments. Students will be required to present a selected research topic that fits the broader goal of the course and will be asked to submit a referenced written version of it after their oral presentation. Grading will be based on their presentation (oral and written) as well as their contributions to class discussions. Prerequisite(s): Advanced undergraduates may enroll with the consent of the instructor.

Instructor(s): U. Schmidt-Ott Terms Offered: Autumn

Prerequisite(s): Advanced undergraduates may enroll with the consent of the instructor.

Equivalent Course(s): DVBI 33850, BIOS 22306, EVOL 33850

# ORGB 34650. Computational Approaches to Cognitive Neuroscience. 100 Units.

This course is concerned with the relationship of the nervous system to higher order behaviors (e.g., perception, object recognition, action, attention, learning, memory, and decision making). Psychophysical, functional imaging, and electrophysiological methods are introduced. Mathematical and statistical methods (e.g. neural networks and algorithms for studying neural encoding in individual neurons and decoding in populations of neurons) are discussed. Weekly lab sections allow students to program cognitive neuroscientific experiments and simulations.

Instructor(s): N. Hatsopoulos Terms Offered: Winter

Prerequisite(s): For Neuroscience Majors: NSCI 20110, NSCI 20130, BIOS 26210, and knowledge using Matlab, or consent of instructor.

Equivalent Course(s): NSCI 23600, PSYC 34410, BIOS 24232, CPNS 33200

# ORGB 36400. Molecular Phylogenetics. 100 Units.

While evolution by natural selection is an elegantly simple phenomenon, modern research in evolutionary biology contains a variety of controversial, and sometimes confusing, topics. In this course, we will explore, as a group, a select list of controversial or confusing topics in evolutionary biology through a mix of student-led presentations and discussion of the primary literature. Each student will also write a review paper about his or her selected topic.

Instructor(s): J. Thornton, A. Drummond Terms Offered: Spring. offered in alternate (even) years

Note(s): not offered in 2018-19

Equivalent Course(s): HGEN 36400, ECEV 36400

#### ORGB 40000. Intro to Integrative Organismal Biology. 100 Units.

A graduate seminar to introduce students to research of faculty in the Department of Organismal Biology and Anatomy. Prerequisite(s): Required for first and second year graduate students in Integrative Biology. Instructor(s): M. Westneat Terms Offered: Autumn

Prerequisite(s): Required for first and second year graduate students in Integrative Biology.

# ORGB 40001. Topics: Integrative Organismal Biology. 100 Units.

Instructor(s): U. Schmidt-Ott, S. Palmer Terms Offered: Winter Prerequisite(s): Required for first and second year graduate students in Integrative Biology.

#### ORGB 40100. Anatomical Research. 100 Units.

Course description unavailable.

Terms Offered: Autumn

Note(s): Only open to first year graduate students in the Darwinian Sciences Cluster

#### ORGB 40101. Grants, Publications, and Professional Issues. 100 Units.

Covers professional topics in evolutionary biology, primarily strategies in grant writing and review. Each student will work towards the submission of an application of their choice. The course meets weekly and involves extensive writing and discussion.

Instructor(s): J. Bergelson, R. Ho, M. Coates Terms Offered: Autumn Note(s): Open to first and second year graduate students in the Darwinian Sciences Cluster Equivalent Course(s): EVOL 40100, ECEV 40100

#### ORGB 40200. Advanced Topics in Ethics for the Darwinian Sciences. 100 Units.

This course covers advanced topics in ethics relevant to senior Ph.D. students in the Darwinian Sciences. CEB students are required to successfully complete this course before being awarded the Ph.D Instructor(s): M. Coates, P. Herendeen Terms Offered: Winter Prerequisite(s): Open to Ph.D. students in the Darwinian Sciences Equivalent Course(s): EVOL 40200, ECEV 40200

#### ORGB 42600. Theoretical Neuroscience: Statistics and Information Theory. 100 Units.

This course begins with an introduction to inference and statistical methods in data analysis. We then cover the two main sections of the course: I) Encoding and II) Decoding in single neurons and neural populations. The encoding section will cover receptive field analysis (STA, STC and non-linear methods such as maximally informative dimensions) and will explore linear-nonlinear-Poisson models of neural encoding as well as generalized linear models alongside newer population coding models. The decoding section will cover basic methods for inferring stimuli or behaviors from spike train data, including both linear and correlational approaches to population decoding. The course will use examples from real data (where appropriate) in the problem sets which students will solve using MATLAB.

Prerequisite(s): Prior exposure to basic calculus and probability theory, CPNS 35500 or instructor consent. Equivalent Course(s): CPNS 35600, STAT 42600

#### ORGB 49401. Approaches to Teaching in The Darwinian Sciences. 100 Units.

This course will introduce different teaching philosophies and methods that address how to be an effective teacher in the Darwinian Sciences. Specifically, the course will address what skills and knowledge undergraduates need to acquire and which assignments best teach these skills. Students will prepare course syllabi, discuss different approaches to teaching, and draft a philosophy of teaching statement. The overall goal for the course is that the students think critically about the art of teaching and formulate their own thoughts on the matter to better prepare them for their own careers in teaching. Equivalent Course(s): ECEV 49401, EVOL 49401

# ORGB 49500. Lab Teaching/Teaching: Organismal Biology/Anatomy. 100 Units.

For graduate students to build their teaching skills by assisting with the instruction of a course in a core area of Integrative Biology. Students should register for the section under the faculty member who is their teaching mentor for the quarter.

#### ORGB 49700. Rdgs: Organismal Biology/Anatomy. 300.00 Units.

#### ORGB 49800. Rsch: ORGB-Off Campus. 300.00 Units.

For graduate students conducting dissertation research at an off-campus lab or field location. Students should register for the section under their adviser only when using pro forma status for the quarter.

#### ORGB 49900. Rsch: ORGB-On Campus. 300.00 Units.

For graduate students conducting dissertation research wholly or partly on campus for the quarter. Students should register for the section under their adviser and time spent should directly advance their dissertation in Integrative Biology.

#### ORGB 57500. Cell Growth, Injury, Repair and Death. 100 Units.

This course reviews the various modes of cell injury that can occur, the basic molecular healing responses, and pathways of metabolic survival or death. This course may be of interest to those interested in wound healing, biological stress responses, molecular chaperones, radiobiology, biomechanics, biomedical engineering, as well as trauma and critical care medicine. Instructor(s): R. Lee Terms Offered: Autumn

Equivalent Course(s): MPMM 57500, MOLM 57500

ORGB 70000. Advanced Study: Organismal Biology & Anatomy. 300.00 Units. Advanced Study: Organismal Biology & Anatomy



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# The Interdisciplinary Scientist Training Program

The Interdisciplinary Scientist Training Program (ISTP) is the graduate program of the University of Chicago's Medical Scientist Training Program (MSTP). The goal of the ISTP is to train the next generation of physician-scientist leaders. Graduates of the MSTP are awarded a MD from the Pritzker School of Medicine (https://pritzker.uchicago.edu/) and a PhD from the graduate studies arm of the MSTP, the Interdisciplin Scientist Training Program (ISTP). (https:// pritzker.uchicago.edu/academics/mstp-interdisciplinary-scientist-training-program/)

MSTP students take graduate courses and perform their PhD thesis work under the umbrella of the ISTP. This novel, highly adaptable program allows students full access to the superb graduate programs within the Division of the Biological Sciences (http://biosciences.uchicago.edu), the Division of the Physical Sciences (https://physical-sciences.uchicago.edu/), and the Division of the Social Sciences (https://socialsciences.uchicago.edu/). The ISTP allows students to pursue training in one field or to craft a unique course of study that integrates two classical disciplines. Examples of the latter include computational biology and human genetics, structural biology and immunology, or developmental biology and microbiology. Such integrations reflect the evolution of biomedical research in which several disciplines are brought to bear on important questions in human disease.

The first year of the program combines medical and graduate school classes. Students then typically begin their PhD thesis research work and return to the second year of medical school after a successful defense. This structure ensures a focused, intensive research experience and preserves the continuity of clinical training. On average, MSTP trainees complete both degrees in eight years.

#### Program of Study

The goal of the Interdisciplinary Scientist Training Program is to train the next generation of physician-scientist leaders. Our program is designed to provide all ISTP students with rigorous scientific training that prepares them to excel in their field of interest, while providing the flexibility to forge new connections between traditional scientific areas.

#### Curriculum

Five weeks prior to the Pritzker start date, incoming students begin an MSTP-only anatomy course, and finish the course with their medical school colleagues in August. During the Autumn, Winter, and Spring Quarters, students take graduate school courses in addition to their medical school courses. Typically, a total of 3-5 graduate school courses will be finished by the end of the first year. Members of the ISTP Curriculum Committee will meet individually with each student every quarter before registration for the coming quarter. During this meeting the committee will work with the student to determine which courses will best ensure that the student is adequately prepared to embark on their graduate work when they join a lab.

Each ISTP student completes two lab rotations during the summer between their first and second year. These rotations allow students to identify their future PhD mentors in their area of interest.

All first year ISTP students participate in the Topics Journal Club course. This course provides an in-depth primaryliterature based examination of basic science courses taken as part of the Pritzker Initiative Curriculum, and allows students to develop an appreciation for the primary literature, learn to critically evaluate articles, learn more about experimental design, learn how to evaluate and present an overview of a field, and become proficient in overall presentation skills.

#### Specializations

ISTP requires students to choose an area of "specialization." Specializations, in general, consist of 5 courses: 3-4 that are programmatic, and 1-2 that are elective/basic advanced knowledge courses. However, some specializations require more coursework due to the nature of the research area. All courses will be graduate courses offered by an established PhD program. In addition to the coursework, specializations require that the student participate in programmatic activities such as research-in-progress, journal club, retreats (if available), seminar series, etc. All students must present their research yearly in a program-approved venue.

#### Self-Designed Specializations

Students who choose not to align with a prescribed specialization, can design their own program with the approval of the ISTP Curriculum Committee. The self-designed program will include at least 5 graduate-level courses. In addition to the coursework, self-designed specializations must include a plan to participate in programmatic activities of an established graduate program such as research-in-progress, journal club, retreats (if available), seminar series, etc. These students will also meet with and be advised by the ISTP Curriculum Committee to ensure that they make suitable course choices each quarter until a Thesis Committee takes over this role.

#### Breaking from Medical School to Complete Graduate Research

At the University of Chicago, ISTP students have the flexibility to choose to break from medical school to pursue their graduate research either after the first year of medical school or after Spring Quarter of their second year of medical school. Most students take 3 to 4 years to complete their PhD research and will successfully defend their thesis prior to returning to medical school.

# Admission

Admission to the ISTP is exclusively through the joint application process with the Pritzker School of Medicine via the American Medical College Application Service (AMCAS). Applicants cannot apply through the UChicago BSD graduate application process.

# More Information

Further information can be found at the MSTP website (https://pritzker.uchicago.edu/mstp-program-overview/).

# Interdisciplinary Scientist Training Courses

# ISTP 30420. Variable Topic Journal Club: Cell & Developmental Biology. 25 Units.

This course provides an in-depth primary-literature based examination of basic science courses taken as part of the Pritzker Initiative and allows students to develop an appreciation for the primary literature, learn to critically evaluate articles, learn more about experimental design, learn how to evaluate and present an overview of a field, and become proficient in overall presentation skills. The topic for this during the 17-18 academic year is Cell & Developmental Biology. Instructor(s): M. McNerney, E.Heckscher and R. Carrillo Terms Offered: Autumn

#### ISTP 30440. Variable Topic Journal Club: Physiology. 25 Units.

This course provides an in-depth primary-literature based examination of basic science courses taken as part of the Pritzker Initiative and allows students to develop an appreciation for the primary literature, learn to critically evaluate articles, learn more about experimental design, learn how to evaluate and present an overview of a field, and become proficient in overall presentation skills. The topic for this course during the 19-20 academic year is physiology. Instructor(s): C. Weber, j. Cheng and L. Shen Terms Offered: Winter

#### ISTP 30441. Variable Topic Journal Club: Grant Writing. 50 Units.

The purpose of this class will to be to provide participants with skills necessary for writing successful grant proposals. The class will emphasize how to craft hypotheses that are based on current published research and to develop rigorous experimental approaches to test these hypotheses. Special emphasis will be placed on developing an outstanding specific aims page that frames a hypothesis within the current literature, justifies the importance of the question and then proposes an integrated experimental plan that tests the central hypothesis.

Instructor(s): M. Clark Terms Offered: Spring

#### ISTP 30460. Variable Topic Journal Club: Statistics. 25 Units.

A thorough understanding of statistics is essential for both experimental design and data analysis. Too often, time and resources are wasted due to a poor understanding of sample size and power calculations, and the reliability of scientific reports has repeatedly been scrutinized in recent years due to questionable, if not fraudulent, application of statistical tests. As a requirement for entry into Pritzker, all MSTP students must have taken a statistics or biomathematics course in college. Building off of a basic, college-level understanding of statistics, this new journal-club style course aims to incorporate indepth, field-specific workshops that will allow students to tailor their statistical toolbox to their particular research interests and goals.

Instructor(s): K. McCann Terms Offered: Summer

#### ISTP 40000. ISTP Thesis Research. 300.00 Units.

Independent research on variable topics in preparation for completing the dissertation. Instructor(s): K. McCann Terms Offered: Autumn Spring Summer Winter

#### **ISTP 42000.** Topics in Data Analysis in Biomedical Research: Big Data. 75 Units. Equivalent Course(s): MEDC 42000



# Committee on Medical Physics

Chair Samuel G. Armato III

Associate Chair Hania A. Al-Hallaq

Professors

- Timothy Carroll, Radiology
- Maryellen L. Giger, Radiology
- David J. Grdina, Radiation & Cellular Oncology
- Howard J. Halpern, Radiation & Cellular Oncology
- Gregory S. Karczmar, Radiology
- Xiaochuan Pan, Radiology

Associate Professors

- Hania A. Al-Hallaq, Radiation & Cellular Oncology
- Samuel G. Armato III, Radiology
- Bulent Aydogan, Radiation & Cellular Oncology
- Chin-Tu Chen, Radiology
- Yulei Jiang, Radiology
- Chien-Min Kao, Radiology
- Ingrid Reiser, Radiology
- Patrick La Riviere, Radiology
- Zheng Feng Lu, Radiology
- Bill O'Brien-Penney, Radiology
- Steffen Sammet, Radiology
- Kamil M. Yenice, Radiation & Cellular Oncology

Assistant Professors

- Kenneth B. Bader, Radiology
- Rodney D. Wiersma, Radiation & Cellular Oncology

Emeritus Professors

- Kunio Doi, Radiology
- David N. Levin, Radiology
- Chester S. Reft, Radiation & Cellular Oncology

The Committee on Medical Physics includes the graduate program in medical physics, which is recognized internationally for its research excellence. Faculty with primary interest in diagnostic imaging hold appointments in the Department of Radiology, and faculty with primary interest in the physics of radiation therapy hold appointments in the Department of Radiation & Cellular Oncology. Many of the faculty are leaders in their respective specialties. Because the departments are located in the University of Chicago Medical Center, there is strong interaction among the clinical and research faculty and staff. The Committee on Medical Physics program leads to the Ph.D. degree in medical physics. Although most students are admitted directly for study toward the Ph.D. degree, the S.M. degree may occasionally be awarded as a terminal degree. Normally five or six years of residency are required for the Ph.D. degree.

Please visit our website http://medicalphysics.uchicago.edu/ for more information.

Inquiries concerning the graduate program should be addressed to Sam Armato, Ph.D., Chair of the Committee on Medical Physics, Director of the Graduate Program in Medical Physics, Department of Radiology, MC 2026, 5841 South Maryland Avenue, Chicago, IL 60637, or e-mail: s-armato@uchicago.edu

In addition to the Graduate Program in Medical Physics, the Committee on Medical Physics has combined with the University of Chicago's Graham School to offer a postgraduate certificate in medical physics. This certificate program provides the necessary training for physicists who are interested in moving to medical physics with the knowledge that they will need in their future profession. Applicants must hold a Ph.D. in physics.

Inquiries concerning the Certificate Program should be addressed to Hania Al-Hallaq, Ph.D., Director of the Medical Physics Certificate Program, at:

hal-hallaq@radonc.bsd.uchicago.edu

Medical physics researchers at the university have available to them a variety of state-of-the-art equipment:

- 1.5T MR scanners
- 3T MR scanner
- 9.4T MRI/MRS system
- Electron paramagnetic resonance imaging spectrometers
- 16-, 32-, and 64-slice helical CT scanners
- Advanced 256-slice helical cone-beam CT scanner
- Advanced 256-slice dual-energy helical cone-beam CT scanner
- Dual-energy chest radiography system
- Full-field digital mammography systems
- PET/CT scanner
- 30% sensitivity dual-head small animal PET scanner
- Computer controlled dual-energy linear accelerators with multileaf collimators, dynamic treatment capability, and solid-state megavoltage imagers and kilovoltage 2D and cone-beam imaging capabilities
- Computer controlled high-dose-rate remote after loading brachytherapy system
- Virtual reality display system
- Computed radiography systems
- 7 dual-head SPECT systems
- Real-time quantitative PCR machine
- Zeiss surgical microscope
- Harvard small animal ventilator
- Micro-interventricular pressure and volume catheters
- MRI-compatible fiber optic pressure transducer
- Physiologic data acquisition and analysis system
- Class II cell culture hood
- · Zeissfluorescence microscope with associated CCD camera and image acquisition and analysis computer system
- Microplate reader
- Sorvall RC-6 high-speed ultracentrifuge
- · Bio-rad gel documentation and analysis workstation
- · Harshaw automated thermoluminescent reader
- Philips 250 kVp orthovoltage machine
- Diagnostic and mammography x-ray systems
- Dual-head SPECT systems
- Xenogen IVIS 200 for bioluminescence and fluorescence animal imaging
- VisEn FMT for fluorescence molecular tomography in animal imaging
- Olympus OV-100 for fluorescence animal imaging
- GMI/GE Triumph Flex microPET/SPECT/CT pre-clinical imaging system
- Vevo 770 ultrasound imaging system for animal imaging
- Super-resolution single-photon emission microscope (SPEM)
- · High-resolution digital x-ray imaging system
- Computer-aided detection system for mammography
- · High-resolution display monitors and workstations
- · General use and specialized image processing and display computers linked via a high-speed network

# Medical Physics Courses

# MPHY 30000. Medical Physics Clinical Observation. 50 Units.

The scope of this course is to expose students to the day-to-day work of clinical medical physicists. Students are offered observation in the clinic of a variety of tasks that medical physicists perform, such as equipment quality control testing. A range of observation topics in diagnostic, therapy and nuclear medical physics are offered. Participation in five observations is required to receive course credit. This is a special topics course and students are expected to prepare themselves for each observation. Enrollment in this course is by instructor permission only. Prerequisite: Completion of HIPAA training (online CITI course)

#### MPHY 32000. Overview of the Physics of Medical Imaging. 100 Units.

This course is for students in the medical physics certificate program. The course presents a comprehensive overview of physics in medical imaging, covering a wide range of clinical imaging modalities including radiography, fluoroscopy, computed tomography (CT), mammography, ultrasound, magnetic resonance imaging (MRI) and nuclear medicine imaging. The course will introduce the student to the fundamental principles of clinical radiological imaging as well as cutting-edge diagnostic imaging technology.

Instructor(s): Z.F Lu, B. O'Brien-Penney, I. Reiser and S. Sammet Terms Offered: Spring

#### MPHY 32600. Introduction to Medical Physics and Medical Imaging. 100 Units.

This course covers the interaction of radiation with matter and the exploitation of such interactions for medical imaging and cancer treatment. Topics in medical imaging include X-ray imaging and radionuclide imaging, as well as advanced technologies that provide three-dimensional images, including X-ray computed tomography (CT), single photon emission computed tomography (SPECT), positron emission tomography (PET), magnetic resonance imaging (MRI), and ultrasonic imaging.

Instructor(s): S. Armato, P. La Riviere Terms Offered: Spring

Prerequisite(s): PHYS 23500. This course does not meet requirements for the Biological Sciences major. Students majoring in physics may use this course either as an elective or as one of the topics courses to meet the general education requirement in the Biological Sciences.

Equivalent Course(s): BIOS 29326, MPHY 29326

#### MPHY 34100. Bioethics for Medical Physicists. 50 Units.

This course explores ethical issues that arise in the practice of medical physics in research, education and clinical settings. Topics include misconduct (fabrication, falsification and plagiarism) and questionable conduct in scientific research; authorship and publication practices; human subject research (informed consent and IRB review, patient/subject privacy and confidentiality; quality improvement vs research; vulnerable subjects); history of human radiation experiments and medical physics; research with animals; incidental findings in radiation therapy and imaging research; conflicts of interest; mentorship; professionalism and the AAPM code of ethics; ethics of innovative technologies (charged particle therapy); off-label uses of radiation radiation errors and patient safety; and the ethics of radiation protection, optimization and justification of medical radiation exposure in therapy and imaging. The course aims to increase students' awareness of ethical issues, conflicts and dilemmas.

Instructor(s): N. Ozturk Terms Offered: Spring

#### MPHY 34200. Practicum in the Physics of Medical Imaging I. 100 Units.

This laboratory course is designed for students to enhance the understanding of materials covered in the Physics of Medical Imaging I (MPHY 38600) and to acquire hands-on experience on related subjects. These subjects include diagnostic x-ray sources and imaging systems, MRI, and the applications of computer-aided diagnosis.

Instructor(s): S. Sammet, M. Giger, Y. Jiang, P. La Rivière, Z.F. Lu Terms Offered: Spring

#### MPHY 34300. Practicum in the Physics of Medical Imaging II. 100 Units.

This laboratory course is designed to familiarize the medical physics student with certain equipment and procedures in diagnostic radiology, with emphasis on nuclear medicine (both PET and SPECT), ultrasound, and x-ray (helical) computed tomographic (CT) imaging. The students will conduct routine quality control procedures and educational exercises. Data analysis will be conducted using clinical software and freeware that will process DICOM images. Instructor(s): B. O'Brien-Penney, Z.F. Lu Terms Offered: Summer

#### MPHY 34400. Practicum in the Physics of Radiation Therapy. 100 Units.

This course combines lectures and intensive hands-on experiments. It includes an introduction to thermoluminescent detectors, film and ionization chamber dosimetry, and quality assurance for intensity modulated radiation therapy (IMRT). Training in data acquisition, error analysis, experimental techniques and the safe handling of sealed radiation sources is also included. The basic concepts of Monte Carlo calculations will be presented and measurements made in simple slab phantoms to compare with (MC) calculations.

Instructor(s): H. Al-Hallaq, B. Aydogan Terms Offered: Winter

#### MPHY 34500. Nuclear Instrumentation and Methods for Molecular Imaging. 100 Units.

#### MPHY 34900. Mathematics for Medical Physics. 100 Units.

This course focuses on the mathematics that will be used throughout the training of students in the Graduate Program in Medical Physics. Lectures are given on linear algebra, Fourier analysis, sampling theory, functions of random variables, stochastic processes, estimation theory, signal detection theory, and ROC analysis. Instructor(s): X. Pan, M. Giger, P. La Rivière Terms Offered: Autumn

## MPHY 35000. Interactions of Ionizing Radiation with Matter. 100 Units.

Ionizing radiation is the basis for radiation therapy and for many diagnostic imaging studies. This course explores the fundamental modes of interaction between ionizing radiation (both electromagnetic and particulate) and matter, with an emphasis on the physics of energy absorption in medical applications. Topics will include exponential attenuation, x-ray production, charged particle equilibrium, cavity theory, dosimetry, and ionization chambers. Instructor(s): S. Armato, H. Al-Hallaq Terms Offered: Autumn

# MPHY 35100. Physics of Radiation Therapy. 100 Units.

This course covers aspects of radiation physics necessary for understanding modern radiation therapy. Rigorous theoretical foundations of physical dose calculation for megavoltage-energy photons and electrons, biological predictions of therapy outcomes, and brachytherapy are presented. Methods of modeling and implementing radiation therapy treatment planning, evaluation, and delivery are described. Emphasis is placed on current developments in the field including intensity modulated radiation therapy. The course is intended to provide comprehensive knowledge of radiation therapy physics, enabling the student to grasp current research in the field.

Instructor(s): K. Yenice, N. Ozturk, R. Wiersma Terms Offered: Winter

#### MPHY 35601. Anatomical Structure and Physiological Function of the Human Body. 100 Units.

Study and primer of the basic anatomy of the human body, as demonstrated from diagnostic radiographic imaging. Physiological processes of body systems will be examined with an emphasis on its relationship with imaging. Emphasis is placed on critical landmark structures involved in body, limb and nervous system imaging, allowing for effective clinically oriented research.

Instructor(s): C. Straus, B. Roman Terms Offered: Autumn

#### MPHY 35900. Cancer And Radiation Biology. 100 Units.

This course provides students with an overview of the biology of cancer and of the current methods used to diagnose and treat the disease. Lectures from faculty throughout the Biological Sciences Division will include presentations on cancer incidence and mortality, cancer prevention, a molecular biology perspective, the role of genetic markers, methods of treatment (radiation, chemotherapy) and prognosis. The course will be primarily for medical physics graduate students. Instructor(s): D. Grdina Terms Offered: Winter

# MPHY 37400. Charles E. Metz Special Topics. 100 Units.

The Third Charles E. Metz Special Topics Course: "Tracer Methodology "Tracer" is a minute amount of chemical compound used in tracking the specific physiology or life process of interest without altering that specific process to be assessed or measured. Specific tracer methodology is often associated with an imaging technology that captures the quantitative information relevant to the specific life process under investigation. We will survey the tracer methodology employed in PET, SPECT, MRI, EPRI, ultrasound, optical imaging, X-ray, CT and other new imaging techniques. Computational methods to extract and derive biological or functional information from the tracer image data, as well as applications of the tracer methodology in clinical practice and biomedical research will also be discussed. Instructor(s): Chin-Tu Chen Terms Offered: Winter (every other year)

#### MPHY 38600. Physics of Medical Imaging-1. 100 Units.

This is an introductory course to the basic elements of x-ray imaging, electron paramagnetic resonance (EPR) imaging, and magnetic resonance imaging (MR1) and spectroscopy (MRS). X-ray imaging topics include x-ray spectra, image formation, analog and digital detectors, physical measures of image quality, fluoroscopy, digital subtraction angiography, dual-energy imaging and image restoration. Magnetic resonance imaging topics include nuclear magnetic resonance, relaxation times, pulse sequences, functional imaging and spectroscopy.

Instructor(s): Y. Jiang, H. Halpern, P. La Rivière, B. Roman Terms Offered: Spring

#### MPHY 38700. Physics of Medical Imaging II. 100-300 Units.

This course covers the physics, mathematics and statistics in nuclear medicine, x-ray computed tomography, ultrasound imaging, and optical imaging. Specific topics include: radioactive isotopes and tracer methodology; physics, instrumentation, and performance properties of gamma camera; quality control in nuclear medicine; SPECT imaging; physics, instrumentation and performance properties of PET imaging; biokinetics and compartmental analysis; physics, reconstruction, proformance properties for CT imaging and tomosynthesis; principles and instrumentation of ultrasound imaging; and optical imaging.

Instructor(s): C-M. Kao, P. La Rivière, B. O'Brien-Penney, E. Sidky Terms Offered: Summer

#### MPHY 39200. Diagnostic Clinical Physics. 300.00 Units.

This course provides an understanding of the physical principles and theories involved in diagnostic imaging modalities. It will acquain the student with the daily work of a clinical medical physicist in a Radiology department. This course will introduce concepts of quality control and will enable students to perform quality control scans on different imaging modalities.

Instructor(s): B. O'Brien-Penney, Z.F. Lu, S. Sammet Terms Offered: Autumn

#### MPHY 39300. Physics in Clinical PET. 300.00 Units.

Instructor(s): B. O'Brien-Penney Terms Offered: Autumn

# MPHY 39500. Special Topics Course at the MBL: Image Acquisition/Analysis. 100 Units.

Students will register for this "course" when they are enrolled in an Advanced Research Training Course (on a topic related to image acquisition or image analysis) at the Marine Biological Laboratory in Woods Hole, MA. See http://www.mbl.edu/education/courses/ for course offerings.

#### MPHY 39600. Image Processing/Computer Vision. 100 Units.

Equivalent Course(s): CMSC 35600

#### MPHY 39700. Health Physics. 100 Units.

This course provides an introduction to fundamental principles of health physics and radiation protection in medical physics environments. A broad spectrum of topics is covered, including radiation detection and measurement, instrumentation, counting statistics, radiation protection criteria, exposure limits and regulations, shielding techniques, monitoring of personnel dose and radiation safety.

Instructor(s): B. Aydogan, N. Ozturk Terms Offered: Spring

# MPHY 39900. Reading and Research: MPHY. 100 Units.

This reading course is aimed at working through critical chapters of the text Foundations of Image Science by Harrison Barrett and Kyle Myers. It aims at building on concepts and material from the "Mathematics for Medical Physicists" course toward a deeper understanding the objective assessment of image quality. We will focus on Chapters 1 (Vectors and Operators), 7 (Deterministic Descriptions of Imaging Systems), 8 (Stochastic Descriptions of Objects and Images), 13 (Statistical Decision Theory), 14 (Image Quality), and 15 (Inverse Problems). Student participation is an essential component of this course. Students will take turns presenting and discussing the material under guidance of the instructor(s). There will also be computer exercises aimed at sharpening understanding of the material. Instructor(s): P. La Riviere, C.M. Kao Terms Offered: Winter (every other year)

# MPHY 39901. Directed Reading in Ultrasonic Imaging Physics. 100 Units.

This course, which will be offered in accordance with student interest and faculty availability, involves directed reading of texts related to ultrasonic physics and engineering, such as R.S.C. Cobbold's "Foundations of Biomedical Ultrasound." Instructor(s): P. La Rivière Terms Offered: All Quarters

#### MPHY 41600. Pre-Candidacy Research in Medical Physics. 100-300 Units.

Research topics span various areas of medical physics and can include those from diagnostic imaging to radiation therapy treatment methods, as well as cross-disciplinary projects. Students in the Graduate Program in Medical Physics will enroll in this course (after selecting a lab for their thesis reserach) each quarter until the successful passage of the thesis proposal. Instructor(s): S. Armato, and staff Terms Offered: All Quarters

#### MPHY 41700. Dissertation Research in Medical Physics. 100-300 Units.

Research topics span various areas of medical physics and can include those from diagnostic imaging to radiation therapy treatment methods, as well as cross-disciplinary projects. Students in the Graduate Program in Medical Physics will enroll in this course every quarter after the successful passage of the thesis proposal. Instructor(s): S. Armato, and Staff Terms Offered: All Quarters

#### MPHY 41800. Research in Advanced Tomographic Imaging. 100-300 Units.

Possible research topics include investigation, development, and evaluation of algorithms for advanced tomographic imaging with emphases on the fundamental physics, mathematics, and statistics of advanced tomographic imaging; cone-beam computed tomography (CT); tomosynthesis; phase-contrast CT; magnetic resonance imaging (MRI); electron paramagnetic resonance imaging (EPRI); positron emission tomography (PET); single-photon emission computed tomography (SPECT); and emerging tomographic imaging techniques.

Instructor(s): X. Pan and Staff Terms Offered: All Quarters

#### MPHY 41900. Research in Computer Aided Diagnosis. 100-300 Units.

Research topics include the application of advanced image processing techniques and computer vision approaches to the development of methods for the detection of abnormalities in medical images (e.g., mammograms, chest radiographs, computed tomography (CT) scans, and magnetic resonance imaging (MRI)); the development of methods to classify abnormalities as benign or malignant; the investigation of enhanced visualization techniques such as temporal subtraction imaging; the segmentation of nantomic or pathologic structures of interest; and the assessment of tumor response. Instructor(s): S. Armato and Staff Terms Offered: All Quarters

# MPHY 42000. Research in the Physics of Nuclear Medicine. 100-300 Units.

Possible research topics include the fundamental physical aspects of nuclear medicine, including radiation detection and spectrum analysis; image formation, processing, and display; criteria for image evaluation; and quantitative in vivo assay using methods of gamma ray and positron tomography, stimulated x-ray fluorescence, and activation analysis. Instructor(s): X. Pan and Staff Terms Offered: All Quarters

#### MPHY 42100. Research in the Physics of Diagnostic Radiology. 100-300 Units.

Possible research topics include the development of methods to improve diagnostic accuracy and/or to reduce patient radiation exposure; quantitative image analysis and computer-aided diagnosis, methods of tomographic reconstruction, analysis and evaluation of imaging system components; and joint physical/clinical studies of new techniques in diagnostic medical physics.

Instructor(s): M. Giger and Staff Terms Offered: All Quarters

#### MPHY 42200. Research in the Physics of Radiation Therapy. 100-300 Units.

Possible research topics include radiation treatment planning; radiation dose calculations; intensity-modulated radiotherapy; image-guided radiotherapy; biological basis of radiation therapy; and analysis of treatment outcomes. Instructor(s): C. Pelizzari and Staff Terms Offered: All Quarters

#### MPHY 42300. Research in the Physics of MRI. 100-300 Units.

Possible research topics include fundamental aspects of magnetic resonance imaging (MRI) and magnetic resonance spectroscopy (MRS) including the development and optimization of methods to non-invasively characterize the structure and function of tissue invivo. The developments range from novel MRI/MRS pulse sequences to image reconstruction to data processing methods, multi-modal imaging approaches, and modeling of contrast mechanisms. Other research topics are the development and application of quantitative MRI/MRS methods for image-guided interventions and the analysis of treatment outcomes.

Instructor(s): G. Karczmar, S. Sammet and Staff Terms Offered: All Quarters

#### MPHY 42400. Research in Image-Guided Radiation Therapy. 100-300 Units.

Possible research topics include fundamental aspects of image guidance in radiation therapy planning and delivery, management of inter-treatment and intra-treatment patient motion, use of respiratory correlated CT, cone beam CT, kV/MV real-time imaging, and dynamic patient modeling for treatment planning. Instructor(s): C. Pelizzari and Staff Terms Offered: All Quarters

# MPHY 42500. Research in Quantitative Image Analysis. 100-300 Units.

Possible research topics include fundamental and developmental aspects of computer vision and artificial intelligence on biomedical image data to yield image-based phenotypes for Computer-aided diagnosis (CAD) and other decision support methods in medical imaging. Additional developments include aspects of data mining, dimension reduction, classifier training, metrics of validation, human-computer interface, and imaging genomics. Instructor(s): M. Giger, S. Armato and Staff Terms Offered: All Quarters

#### MPHY 42600. Research in Computer-aided Diagnosis/Radiomics. 100-300 Units.

Possible research topics include development and application of image processing and computer vision techniques for the detection, diagnosis, and response assessment of disease in medical images, the image-based evaluation of normal tissue complications that result from therapy, the quantification of imaging signatures (imaging biomarkers) that correlate with disease phenotypes or patient genetic profiles, the integration of multi-modality imaging for enhanced decision support, and the application of deep learning for computer-aided diagnosis challenges.

#### MPHY 42700. Research in Molecular Imaging. 100-300 Units.

MPHY 70000. Advanced Study: Medical Physics. 300.00 Units. Advanced Study: Medical Physics



# Committee on Microbiology

# Chair

Michaela Gack, Microbiology

# Professors

- Joy Bergelson, Ecology & Evolution
- Eugene B. Chang, Medicine
- Alexander Chervonsky, Pathology
- Michaela Gack, Microbiology
- Tatyana Golovkina, Microbiology
- Jean Greenberg, Molecular Genetics & Cell Biology
- Joseph Kanabrocki, Microbiology
- Dominique Missiakas, Microbiology
- Eric Pamer, Medicine
- Tao Pan, Biochemistry & Molecular Biology
- Glenn Randall, Microbiology
- Phoebe Rice, Biochemistry & Molecular Biology
- Raymond Roos, Neurology
- Lucia Rothman-Denes, Molecular Genetics & Cell Biology
- Howard Shuman, Microbiology
- Wei Jen Tang, Ben May Department for Cancer Research
- Aaron Turkewitz, Molecular Genetics & Cell Biology
- Associate Professors
- Sarah Cobey, Ecology & Evolution
- Michael Rust, Molecular Genetics & Cell Biology

# Assistant Professors

- Jueqi, Chen, Microbiology
- Maureen Coleman, Geophysical Sciences
- A. Murat Eren, Medicine
- Daria Esterhazy, Pathology
- Sam Light, Microbiology
- Mark Mimee, Microbiology
- Jacob Waldbauer, Geophysical Sciences

Emeritus Faculty

- Robert Haselkorn, Molecular Genetics & Cell Biology
- Bernard Roizman, Microbiology

The primary purpose of the Committee on Microbiology is to produce research scientists and teachers in microbiology by offering formal instructions; by fostering informal dissemination of information among the faculty, fellows and students engaged in research in microbiology; and by administering a program of study leading to the degree of Doctor of Philosophy. Through its faculty, activities and educational program, the Committee on Microbiology integrates studies in various clinical and non-clinical departments of the Biological Sciences Division. The Committee on Microbiology maintains maximum flexibility in its program to cater to students' developing interests. Students with backgrounds in any appropriate field (physics, chemistry, biology, biochemistry, and medicine) may commence work in microbiology upon entering the graduate program of the Biological Sciences Division. The Committee on Microbiology sponsors a seminar series, which brings to campus prominent microbiologists from all over the world to discuss their research and meet with microbiology faculty and students. Another regular activity sponsored by the committee is the Microbiology Research Forum. Research Forums feature a current graduate student, postdoctoral fellow or other training fellow in microbiology presenting his/her research data. Microbiology Research Forums are open to the university community, offering an informal forum for the discussion of microbiology within the Chicago scientific community.

The Committee on Microbiology is a member of the Biomedical Sciences Cluster, which also houses graduate programs of the Committee on Cancer Biology, the Committee on Immunology, and the Committee on Molecular Metabolism and Nutrition. The four academic units share a joint admissions committee, several courses, a seminar series and other events for students and faculty within the cluster. The goal of the cluster system is to encourage interdisciplinary

interactions among both trainees and faculty, and to allow students flexibility in designing their particular course of study. The Ph.D. degree is administered by the Committee on Microbiology and is recommended when the student has fulfilled the requirements stipulated in his or her individual program; has met the divisional requirements for the degree; and, in the opinion of the committee, has attained competence in research in his or her field of specialization.

# Microbiology Courses

# MICR 30600. Fundamentals of Bacterial Physiology. 100 Units.

This course meets one of the requirements of the microbiology specialization. This course introduces bacterial diversity, physiology, ultra-structure, envelope assembly, metabolism, and genetics. In the discussion section, students review recent original experimental work in the field of bacterial physiology.

Instructor(s): D. Missiakas Terms Offered: Autumn

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence, or consent of instructor Equivalent Course(s): BIOS 25206

# MICR 31200. Host Pathogen Interactions. 100 Units.

This course explores the basic principles of host defense against pathogens, including evolutionary aspects of innate and adaptive immunity and immune evasion strategies. Specific examples of viral and bacterial interactions with their hosts are studied in depth. A review of immunological mechanisms involved in specific cases is incorporated in the course. Instructor(s): A. Chervonsky Terms Offered: Autumn

Prerequisite(s): BIOS 25206 and BIOS 25256

Equivalent Course(s): BIOS 25260, IMMU 31200

# MICR 31600. Molecular Basis of Bacterial Disease. 100 Units.

This course meets one of the requirements of the microbiology specialization. This lecture/discussion course involves a comprehensive analysis of bacterial pathogens, the diseases that they cause, and the molecular mechanisms involved during pathogenesis. Students discuss recent original experimental work in the field of bacterial pathogenesis. Instructor(s): H. Shuman Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence.

Equivalent Course(s): BIOS 25216

# MICR 34600. Introduction to Virology. 100 Units.

This class on animal viruses considers the major families of the viral kingdom with an emphasis on the molecular aspects of genome expression and virus-host interactions. Our goal is to provide students with solid appreciation of basic knowledge, as well as instruction on the frontiers of virus research.

Instructor(s): T. Golovkina Terms Offered: Spring

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence and third- or fourth-year standing Equivalent Course(s): BIOS 25287

#### MICR 35900. Medical Microbiology. 100 Units.

Provides an overview of the clinically important microorganisms and their role in the causation of human infectious disease. The objectives of the course are to discuss mechanisms of microbial pathogenesis and host manifestations of disease, provide knowledge of the common organisms associated with specific infectious disease presentations as foundation for a system (organ)-based approach to diagnosis, and to describe the role of the clinical diagnostic laboratory in identification of pathogens and disease management. Lectures are held three days a week in 50-minute periods. Additionally, students attend weekly laboratory sessions during the quarter and participate in student-led case-based discussion groups with a faculty preceptor on a weekly basis. Two multiple-choice exams are administered, as well as a final laboratory practical exam and several laboratory quizzes.

Instructor(s): J. Benoit, G. Randall Terms Offered: Spring

Prerequisite(s): Second year medical students only or consent of instructor

# MICR 39200. Tutorial: Microbiology. 100 Units.

Additional readings in an area of Microbiology. Must be prearranged with a faculty member and preapproved by the chair of the Curriculum Committee.

Instructor(s): M. Gack Terms Offered: Autumn Spring Summer Winter

# MICR 39900. Readings: Microbiology. 100 Units.

Reading course in an area of Microbiology of special interest to the student. Must be prearranged with a faculty member and preapproved by the chair of the Curriculum Committee.

Instructor(s): M. Gack Terms Offered: Autumn Spring Summer Winter

# MICR 40000. Microbiology Research Forum. 100 Units.

All graduate students and honors undergraduate students of the Committee on Microbiology will present their research in a central forum, the data club, once each year. Students and postdoctoral fellows present their recent research data for critical evaluation by the faculty of the Committee on Microbiology. This course provides a forum to ensure continued progress of graduate students in their thesis projects. First year graduate students are required to register for the course. Instructor(s): M. Gack Terms Offered: Autumn Spring Winter

# MICR 47000. Thesis Research: Microbiology. 300.00 Units.

Laboratory research for senior graduate students. Instructor(s): M. Gack Terms Offered: Autumn Spring Summer Winter

#### MICR 47100. Non-Thesis Rsch: Microbiology. 300.00 Units.

Non-Thesis Research refers to laboratory rotations. The purpose of laboratory rotations is to expose the student to different research environments, to broaden his or her acquaintance with useful laboratory techniques, and to introduce him or her to the conceptual framework of experimental design. Students undertake short, ten-week research projects in at least two different laboratories before beginning their dissertation research. Instructor(s): M. Gack



# Committee on Molecular Metabolism and Nutrition

Chair

Matthew Brady

Professors

- Maria-Luisa Alegre, Medicine
- George Bakris, Medicine
- Graeme Bell, Medicine
- Antonio Bianco, Medicine
- Deborah Burnet, Medicine
- Eugene Chang, Medicine
- Alexander Chervonsky, Pathology
- Anita Chong, Surgery
- Suzanne Conzen, Medicine
- Anna DiRienzo, Human Genetics
- David Ehrmann, Medicine
- Murray Favus, Medicine
- Godfrey Getz, Pathology (Emeritus)
- Bana Jabri, Medicine
- James Liao, Medicine
- Kay Macleod, Ben May Department for Cancer Research
- J. Michael Millis, Surgery
- Cathryn Nagler, Pathology
- Deborah Nelson, Pharmacological and Physiological Sciences
- Louis Philipson, Medicine
- Vivek Prachand, Surgery
- Eve Van Cauter, Medicine
- Yingming Zhao, Ben May Department for Cancer Research
- Xiaoxi Zhuang, Department of Neurobiology

# Associate Professors

- Marc Bissonnette, Medicine
- Matthew Brady, Medicine
- Ronald Cohen, Medicine
- Yan Chun Li, Medicine
- Jeremy Marks, Pediatrics
- Silvana Pannain, Medicine
- Esra Tasali, Medicine

# Assistant Professors

- Lev Becker, Ben May Department for Cancer Research
- Eunice Chen, Psychiatry & Behavioral Neuroscience
- Dianne Deplewski, Pediatrics
- Alexandra Dumitrescu, Medicine
- Daria Esterhazy, Pathology
- Yun Fang, Medicine

Research Associate (Professor)

Catherine Reardon Alulis, Pathology

Research Associate (Assistant Professor)

Mark Musch, Medicine

The Committee on Molecular Metabolism and Nutrition is a dynamic and interactive research unit of the University of Chicago offering interdisciplinary doctoral training in the molecular basis of biological processes as they relate to nutrition

and human disease. The graduate program in molecular metabolism and nutrition offers a program of study leading to the Doctor of Philosophy in Molecular Metabolism and Nutrition. Faculty expertise includes the areas of insulin secretion, diabetes genetics, nutritional regulation of epithelial cell biology, intestinal absorption, adaptation, and malabsorption, water/ nutrient/electrolyte transport, nutriceuticals, atherogenesis, abnormalities in lipid and lipoprotein metabolism, vitamin D research, insulin metabolic signaling, transcription factors and adipogenesis, impact of nutrition on reproductive biology, glucocorticoid action and sleep research. A mixture of nationally recognized senior faculty and dynamic junior faculty provide a stimulating and supportive environment designed to guide graduate students through course work and research training. Major resources include transgenic mouse facilities, flow cytometry, microscope imaging suites, microarray and gene chip facilities, computational labs and facilities for human research. The committee works closely with the government sponsored Diabetes Research and Training Center, Digestive Disease and Nutrition, and the Clinical Research Center to offer a broad array of choices for research topics.

The Committee on Molecular Metabolism and Nutrition is a member of the Biomedical Sciences Cluster, which also includes graduate programs from the Committee on Cancer Biology, the Committee on Immunology, and the Committee on Microbiology. The four academic units share several common courses, a seminar series, and additional common events for students and faculty within the cluster. The goal of the cluster system is to encourage interdisciplinary interactions among both trainees and faculty, and to allow students flexibility in designing their particular course of study.

#### Admission

Students interested in obtaining the Ph.D. in Molecular Metabolism and Nutrition should submit an application to the Biological Sciences Division by December 1st of each year; indicate their cluster of interest as Biomedical Sciences and select Molecular Metabolism and Nutrition as their proposed degree program.

## The Degree of Doctor of Philosophy

Ph.D. requirements include:

- Completion of 9 course credits consisting of basic science, metabolism and elective courses.
- A preliminary exam in the form of a mock NIH-style grant proposal.
- A dissertation based on original research.
- A final thesis examination.

Committee on Molecular Metabolism and Nutrition Courses

MOMN 30901	Molecular Basis of Metabolic Disease	100
MOMN 30910	Grant Writing	100
MOMN 31000	BMSC All Stars	50
MOMN 31100	Ethics in Scientific Research	50
MOMN 34310	Cellular Engineering	100
MOMN 36500	Molecular Nutrition I	100
MOMN 36600	Molecular Nutrition II	100
MOMN 39900	Readings: Metabolism	100
MOMN 40100	Research: Metabolism	300
MOMN 40400	New Insights into Metabolic Research	50



# Committee on Neurobiology

Chair

Daniel McGehee

Professors

- Edward Awh, Psychology
- Sliman Bensmaia, Organismal Biology and Anatomy
- Francisco Bezanilla, Biochemistry and Molecular Biology
- Jean Decety, Psychology
- Harriet de Wit, Psychiatry and Behavioral Neuroscience
- Glyn Dawson, Pediatrics
- Ruth Anne Eatock, Neurobiology
- David Freedman, Neurobiology
- Aaron P. Fox, Pharmacological and Physiological Sciences
- Elliot S. Gershon, Psychiatry and Behavioral Neuroscience
- Christopher Gomez, Neurology
- William Green, Neurobiology
- Elizabeth Grove, Neurobiology
- Melina Hale, Organismal Biology and Anatomy
- Christian Hansel, Neurobiology
- Nicholas Hatsopoulos, Organismal Biology and Anatomy
- Leslie Kay, Psychology
- Andrea King, Psychiatry and Behavioral Neuroscience
- Richard P. Kraig, Neurology
- Yamuna Krishnan, Chemistry
- Daniel Margoliash, Organismal Biology and Anatomy
- Peggy Mason, Neurobiology
- James A. Mastrianni, Neurology
- John Maunsell, Neurobiology
- Deborah Nelson, Pharmacological and Physiological Sciences
- Eduardo Perozo, Biochemistry and Molecular Biology
- Nanduri Prabhakar, Medicine
- Brian Prendergast, Psychology
- Victoria Prince, Organismal Biology and Anatomy
- Clifton Ragsdale, Neurobiology
- Anthony T. Reder, Neurology
- Raymond P. Roos, Neurology
- S. Murray Sherman, Neurobiology
- Sangram Sisodia, Neurobiology
- Betty Soliven, Neurology
- Wei-Jen Tang, Ben May Department of Cancer Research
- V. Leo Towle, Neurology
- Edward Vogel, Psychology
- Ming Xu, Anesthesia and Critical Care
- Xiaoxi Zhuang, Neurobiology

Associate Professors

- Jason MacLean, Neurobiology
- Sarah London, Psychology
- Jeremy Marks, Pediatrics
- Stephanie Palmer, Organismal Biology and Anatomy
- Wei Wei, Neurobiology

Assistant Professors

- Demet Arac, Biochemistry and Molecular Biology
- Stephanie Cacioppo, Psychiatry and Behavioral Neuroscience
- Robert Carrillo, Molecular Genetics and Cell Biology
- Ellie Heckscher, Molecular Genetics and Cell Biology
- Narayanan (Bobby) Kasthuri, Neurobiology
- Matthew Kaufman, Organismal Biology and Anatomy
- · Sarah Keedy, Psychiatry and Behavioral Neuroscience
- Paschalis Kratsios, Neurobiology
- Engin Özkan, Biochemistry and Molecular Biology
- Mark Sheffield, Neurobiology
- Xiaochang Zhang, Human Genetics

The Committee on Neurobiology is an interdepartmental committee designed to provide training and instruction for students interested in the biology of the nervous system, and to encourage communication and the exchange of ideas between faculty members and students interested in neurobiology. Recent technical and conceptual developments in neuroscience have produced remarkable growth in this field. The committee reflects this growth in its structure, having members from different departments whose research interests include a broad spectrum of approaches from the biochemical and molecular to the behavioral and comparative. The committee aims to provide broad training in technical and theoretical aspects of the neurosciences.

#### The Degree of Doctor of Philosophy

Students initially are admitted to the Division of the Biological Sciences and must meet divisional requirements. The progress of each student will be supervised during the first year by the Student Advising Committee until the student chooses a thesis advisor. Upon choosing a thesis advisor, an advisory committee chaired by a tenured faculty member who is not the student's thesis advisor is formed. The advisory committee consists of at least four faculty members with a majority being members of the Committee on Neurobiology. As a student's focus changes, the composition of the advisory committee may be modified.

Each student is required to take three core courses, two graded laboratory rotations and four electives (one of which has to be a quantitative course). Usually these courses will be taken during the first year and part of the second year. Required courses include a series of courses on cellular, developmental, and systems neurobiology. Elective courses focus on topics such as neuropharmacology, systems neurophysiology, development, physiology of ion channels and statistics.

During the first year, in addition to taking courses, students rotate through different laboratories. During the second year, the student writes a thesis proposal in NRSA format and defends this before the advisory committee. For the purposes of the divisional requirements, this is the examination testing the candidate's qualifications for candidacy.

The original observations included in the final Ph.D. dissertation should be judged suitable for publication. The final oral examination for the Ph.D. degree consists of a public seminar and a private defense conducted by the advisory committee and by other such members of the University faculties as may be deemed suitable.

#### Neurobiology Courses

# NURB 30107. Behavioral Neuroscience. 100 Units.

This course provides an introduction to neuroethology, examining brain activity relative to behaviors and organisms evaluated from an adaptive and evolutionary perspective. It starts with a brief introduction to classical ethology, and then develops a series of example animal model systems. Both invertebrate and vertebrate models are considered although there is a bias towards the latter. Many of these are "champion" species. There is a heavier demand for reading original data papers than typical in introductory graduate level courses. An integral part of the course is a series of assignments where you develop grant proposals describing novel science experiments in the animal models, thereby challenging your knowledge of the material and teaching aspects of scientific writing. In recent years there has been more computational material presented. The course is not available to undergraduates without prior approval of the instructor.

Instructor(s): D. Margoliash Terms Offered: Spring

Note(s): The course is not available to undergraduates without prior approval of the instructor. Equivalent Course(s): CPNS 30107, PSYC 40107

# NURB 31600. Survey of Systems Neuroscience. 100 Units.

This lab-centered course teaches students the fundamental principles of vertebrate nervous system organization. Students learn the major structures and the basic circuitry of the brain, spinal cord and peripheral nervous system. Somatic, visual, auditory, vestibular and olfactory sensory systems are presented in particular depth. A highlight of this course is that students become practiced at recognizing the nuclear organization and cellular architecture of many regions of brain in rodents, cats and primates.

Instructor(s): S. Bensmaia Terms Offered: Autumn

Prerequisite(s): NSCI 20130. For Biological Sciences majors: Three quarters of a Biological Sciences fundamentals sequence

Equivalent Course(s): CPNS 30116, BIOS 24208, NSCI 23500, ORGB 32500

#### NURB 31800. Cellular Neurobiology. 100 Units.

This course is concerned with the structure and function of the nervous system at the cellular level. The cellular and subcellular components of neurons and their basic membrane and electrophysiological properties will be described. Cellular and molecular aspects of interactions between neurons will be studied. This will lead to functional analyses of the mechanisms involved in the generation and modulation of behavior in selected model systems. Instructor(s): R. A. Eatock, X. Zhuang, D. McGehee Terms Offered: Winter

Equivalent Course(s): CPNS 30000

#### NURB 32000. Intro To Faculty Research. 100 Units.

First-year students in Neurobiology and Computational Neuroscience are required to attend this chalk talk series where faculty members looking for rotating students present the research conducted in their labs. Terms Offered: Autumn

Equivalent Course(s): CPNS 31900

#### NURB 32300. Molecular Principles of Nervous System Development. 100 Units.

This elective course provides an overview of the fundamental questions in developmental neurobiology. It is based on primary research papers and highlights key discoveries in vertebrate and invertebrate animals that advanced our understanding of nervous system development. Topics covered, among others, will include neural stem cells, neuronal specification and terminal differentiation, and circuit assembly. Dogmas and current debates in developmental neurobiology will be discussed, aiming to promote critical thinking about the field. This advanced-level course is open to upper level undergraduate and graduate students and combines lectures, student presentations, and discussion sections. Neuroscience major undergrads need to have completed the Fundamentals of Neuroscience sequence.

Instructor(s): E. Grove, P. Kratsios Terms Offered: Spring

Prerequisite(s): For undergrads: NSCI 20110, 20120, 20130 and a basic understanding of Genetics, or 'BIOS 20187' (Fundamentals of Genetics) is recommended, but not required.

Equivalent Course(s): DVBI 32300, NSCI 22300, CPNS 32300

#### NURB 32400. Synaptic Physiology. 100 Units.

This course covers the basic principles of synaptic transmission and plasticity using a combination of lecture and discussion of primary literature. Lecture topics cover membrane electrical phenomena that lead to release of neurotransmitter presynaptically, as well as the physilogical consequences of postsynaptic receptor activation. Paper discussions, which make up ~ 2/3 of the course, are centered on two major topics: 1) The molecular machinery controlling synaptic vesicle exocytosis and recycling, and 2) Synaptic plasticity covering LTP, LTD, Metaplasticity, Spike-timing dependent plasticity and Homeostatic plasticity. There is significant emphasis on the connections between the various forms of synaptic modification and behavior.

Instructor(s): D. McGehee Terms Offered: Winter Prerequisite(s): Upper undergrads by consent of instructor Equivalent Course(s): NSCI 23400

#### NURB 32900. Perspectives in Drug Abuse. 100 Units.

It is a broad overview course about drug abuse, that is appropriate for graduate students as well as undergraduates. It includes lectures on epidemiology, genetics, neurobiology, experimental methods, policy and treatment, as well as lectures on several specific drug classes. Lectures are by Dr. de Wit and by other invited faculty members, and students are required to present and discuss recent published papers during classes.

Instructor(s): H. de Wit Terms Offered: Spring

Equivalent Course(s): NSCI 21800, BIOS 24135

# NURB 33400. Genetic Approaches in Neurobiology. 100 Units.

This course is more technique oriented. The goal is to give a good coverage of different genetic approaches as well as different aspects of neurobiology. Topics are organized by genetic approaches as the following: 1) Transgenic. 2) Gene targeting. 3) Gene replacement. 4) Conditional knockout. 5) Genetic and optical control of neural activity. 6) Transgenic facilitated imaging. 7) Forward genetics and genetic screening. The selection of a variety of papers throughout the course aims to cover different neural pathways, neurotransmitters, receptor/channel types, signaling pathways, and functional implications (learning, memory, addiction, development etc). Specific emphasis will be on the integration of molecular, cellular and systems level approaches in understanding behavior. Lecture time will be devoted to the genetic approaches. Students will present and discuss papers. We will have 2-3 papers each lecture.

Instructor(s): X. Zhuang Terms Offered: Spring

#### NURB 33500. Protein Structure and Functions in Medicine. 100 Units.

This course explores how molecular machinery works in the context of medicine (vision, fight or flight, cancer, and action of drugs). We first explore the physical and biochemical properties of proteins in the context of cellular signaling. We then examine how proteins and other cellular components make up the signal transduction pathway of humans and conduct their biological functions. The course engages students to strengthen their scientific communication and teaching skills via the inclass podcast, oral examinations, computer-aided structural presentations, student lectures, and discussions. Instructor(s): W-J. Tang Terms Offered: Spring

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence. Biochemistry strongly recommended. Equivalent Course(s): BIOS 21349, CABI 31900

#### NURB 34133. Neuroscience of Seeing. 100 Units.

This course focuses on the neural basis of vision, in the context of the following two questions: 1. How does the brain transform visual stimuli into neuronal responses? 2. How does the brain use visual information to guide behavior? The course covers signal transformation throughout the visual pathway, from retina to thalamus to cortex, and includes biophysical, anatomical, and computational studies of the visual system, psychophysics, and quantitative models of visual processing. This course is designed as an advanced neuroscience course for undergraduate and graduate students. The students are expected to have a general background in neurophysiology and neuroanatomy.

Instructor(s): W. Wei, J. Maunsell, M. Sherman, S. Shevell Terms Offered: Autumn

Prerequisite(s): NSCI 20111 or BIOS 24110 or consent of instructor

Equivalent Course(s): PSYC 34133, NSCI 22400, CPNS 34133, PSYC 24133, BIOS 24133

# NURB 34600. Neurobiology of Disease I. 100 Units.

This graduate-level, 100-unit course has an unusual format aimed at fostering lively discussion and interaction. There will be 10 meetings spread at 1-month intervals over the winter, spring and fall quarters. Each meeting will focus on a topic such as Epilepsy, Alzheimer's, or Autism, and feature a brief introduction (by a student) and chalk talks by two faculty, one on clinical aspects of the disease and one on basic research approaches. The student's grade is based on the presentation at one meeting and participation across all meetings.

Instructor(s): C. Gomez, X. Zhuang Terms Offered: Autumn Spring Winter

Note(s): Class meets on the 3rd Wednesday of the month; 100 credits given after 3 quarters attendance.

Equivalent Course(s): CPNS 34600

# NURB 38800. Neuroscience Ethics. 100 Units.

Neuroscience Senior Ethics class: compulsory for Neurobiology and Computational Neuroscience PhD students in their 4th year (to fulfill BSD ethics requirement). The course, directed by the graduate programs chairs, will consist of 4 sessions with invited speakers to be held in May and June.

Instructor(s): D. McGehee Terms Offered: Winter

Equivalent Course(s): CPNS 38800

#### NURB 39900. Readings: Neurobiology. 300.00 Units.

Subject matter for individual tutorial-based study is selected through prior consultation and is given under the guidance of a faculty member. The student and faculty member must indicate at time of registration whether the course will be taken on a letter grade or pass/fail basis.

#### NURB 40100. Rsch: Neurobiology. 300.00 Units.

The student conducts original investigation under the direction of a faculty member. The research is presented and defended as a dissertation in candidacy for the degree of Doctor of Philosophy.

# NURB 70000. Advanced Study: Neurobiology. 300.00 Units.

Advanced Study: Neurobiology



# Department of Public Health Sciences

Chair

Diane S. Lauderdale

Professors

- Habibul Ahsan
- James J. Dignam
- Robert D. Gibbons, Medicine
- Donald Hedeker
- Yuan Ji
- R. Tamara Konetzka
- Benjamin B. Lahey
- Diane S. Lauderdale
- Harold Pollack, School of Social Service Administration
- John A. Schneider, Medicine

Associate Professors

- Lin Chen
- Brian Chiu
- Dezheng Huo
- Brandon Pierce
- Mei-Yin Polley

Assistant Professors

- Kavi Bhalla
- Prachi Sanghavi
- Loren Saulsberry
- Marcia Tan

Instructors

Aresha Martinez-Cardoso

Public Health Sciences (PHS) is the home in the Biological Sciences Division to biostatistics, epidemiology and health services research. These core fields in public health research share a focus on the development and implementation of complex analytic methods to understand the determinants of health, the efficacy of experimental treatments, and the structure of health care at the population level. Bringing together these fields in one department underscores their commonality and enhances opportunities for interdisciplinary research. Faculty members lead local, national, and international studies, and also welcome opportunities to collaborate with faculty across the Biological Sciences Division and the university. Substantively, our research themes include social and environmental determinants of health, genetics and disease, the economics of health care, and the evaluation and implementation of new technologies in public health and clinical care. In terms of methodological expertise, areas in which our faculty has developed innovative approaches include: risk factor measurement; multilevel, clustered and longitudinal data; clinical trials; administrative health data; social networks; and statistical methods to assess the genetic and molecular basis of disease.

# Program of Study

Currently, the Department of Public Health Sciences offers a graduate program, the Master of Science in Public Health Sciences for Clinical Professionals, and a Ph.D. program. Current information on graduate programs is available from the department's website at http://health.bsd.uchicago.edu/.

# The Degree of Doctor of Philosophy

The Department of Public Health Sciences at the University of Chicago offers a program of study leading to the Ph.D. with emphasis in biostatistics, epidemiology or health services research. This program will prepare individuals for research careers in population-based research in human health and biomedical science. The program is organized around a common quantitative core curriculum designed to prepare students methodologically for more in-depth study in their chosen field and for dissertation research. Beyond the core curriculum, each student will chose a major disciplinary area of concentration, take a sequence of advanced courses in that area, and prepare a dissertation of independent, original, and rigorous research. Opportunities for such concentrated study will be available in the three broad areas of biostatistics, epidemiology and health services research, areas of expertise represented by department faculty.

In addition to the concentration, each student will choose a minor program of study in another area either represented by department faculty or offered elsewhere in the Biological Sciences Division or on campus. Tailored to each individual student, the minor will vary in its degree of specificity from student to student. It may be in one of the broad areas represented by the department, or in a more specialized area. Examples of specialized minors include psychiatric or cancer epidemiology, health economics, economics of aging, clinical trials design, cancer biology, genetic or molecular epidemiology, bioinformatics, or medical decision theory.

# Program requirements

Students should expect to complete the program in 5 years by fulfilling the following requirements:

Complete 18 graduate level courses, including:

- A core curriculum of up to six courses.
- A major concentration program approved by the faculty consisting of at least 7 additional courses in a disciplinary domain (such as biostatistics).
  - A minor program approved by the faculty consisting of at least 3 additional courses in a second disciplinary area.

Successfully complete a course in scientific integrity and the ethical conduct of research, usually in the first year of study (divisional ethics requirement).

Pass a multi-part *preliminary examination* demonstrating mastery of the core curriculum and of foundational knowledge in the chosen area of concentration.

Teach two quarters for credit in pre-approved teaching assistant positions in the biological sciences (divisional teaching requirement).

Establish a doctoral dissertation committee, present proposed dissertation research to members of that committee and other interested faculty, and obtain written approval from the committee on the proposed dissertation research.

Prepare and defend a doctoral dissertation of independent, original, and rigorous research in the chosen area of concentration.

Participate in the departmental seminar, in weekly faculty/student workshops, and in research workshops that overlap with the chosen area of concentration.

#### Required courses

PBHS 30910	Epidemiology and Population Health	100
PBHS 32400	Applied Regression Analysis	100
PBHS 31001	Epidemiologic Methods	100
PBHS 32700	Biostatistical Methods	100
PBHS 35100	Health Services Research Methods	100
PBHS 35500	Introduction to U.S. Health Policy and Politics	100

# Application for Admission

Applications should be received by December 1st for entrance into the program in Autumn Quarter and should consist of a BSD application (including three letters of recommendation), uploaded official transcript(s) from all degree institutions, GRE scores, TOEFL scores (if applicable), CV/detailed relevant work history, a personal statement, and a research statement indicating area of major concentration.

Interested students should visit the department website at https://pbhs.uchicago.edu.

#### Master of Science in Public Health Sciences for Clinical Professionals

The Master of Science Program for Clinical Professionals is a course of study in the theory, methods, and concepts of biostatistics, epidemiology, and health services research needed to design and carry out clinical and epidemiologic research programs. It is designed for the professional enhancement of physicians and other clinical professionals. The program can be completed in one year of full time study, or it can be undertaken in conjunction with a clinical fellowship or training program, in which case the course work may be distributed over two or three years. Students in the program acquire skills with basic statistical methods, followed by additional training in the fundamental theory and methods of epidemiology, biostatistics, and health services research. Through choice from a broad range of elective courses, students can specialize in one of the three disciplinary areas.

#### Entrance requirements

Applicants should either have a doctoral level clinical degree (such as M.D., D.O., or nursing Ph.D.) from an accredited institution, or must have completed pre-clinical training at an accredited medical school. In the latter case, the candidate must provide a plan for completion of both the M.D. and S.M. degrees, and a letter of support from the candidate's medical school.

# Program requirements

A candidate in this program for the degree of Master of Science in Public Health Sciences must complete the required and elective courses (nine courses in total), and complete a master's paper.

Required courses				
One of the following courses:		100		
PBHS 30700	Clinical Epidemiology			
PBHS 30910	Epidemiology and Population Health			
All of the following courses:		300		
PBHS 31001	Epidemiologic Methods			
PBHS 32100	Introduction to Biostatistics *			
PBHS 32400	Applied Regression Analysis			
One of the following courses:		100		
PBHS 35100	Health Services Research Methods			
PBHS 35500	Introduction to U.S. Health Policy and Politics			
One of the following courses:		100		
PBHS 32600	Analysis of Categorical Data			
PBHS 32700	Biostatistical Methods			
PBHS 33300	Applied Longitudinal Data Analysis			
And three electives		300		
Total Units		900		

\* STAT 22000 or equivalent can be substituted for this course.

# Application for Admission

Applications for admission should be completed by December 1st for entry into the program in the following summer quarter.

If the degree program will be pursued while the candidate will be participating in a clinical training program, a letter of support from the training program director is required. Candidates must also submit a statement describing how the proposed course of study will enhance their professional objectives. In addition, candidates must provide transcripts from all post secondary institutions, MCAT or GRE scores, and a completed Biological Sciences Division application.

Interested students should visit the department website at http://health.uchicago.edu (http://health.bsd.uchicago.edu).

## Public Health Sciences Courses

# PBHS 30700. Clinical Epidemiology. 100 Units.

Clinical epidemiology is the "application of epidemiologic principles and methods to problems encountered in clinical medicine." This course introduces the basic principles of epidemiologic study design, analysis and interpretation, with a particular focus on clinical applications. The course includes lectures and discussions based on critical appraisal of significant research articles. The course is primarily intended for, but not restricted to, students with prior clinical training. Public Health Sciences 30700 and 30900 may not both be taken for credit, either will fulfill the basic epidemiology requirement for the MSCP in Public Health Sciences and either will serve as the epidemiology prerequisite for Public Health Sciences 31001.

Instructor(s): B. Chiu, D. Lauderdale Terms Offered: Summer

Prerequisite(s): Introductory statistics recommended, may be taken concurrently.

Equivalent Course(s): CCTS 45100

#### PBHS 30910. Epidemiology and Population Health. 100 Units.

This course does not meet requirements for the biological sciences major. Epidemiology is the study of the distribution and determinants of health and disease in human populations. This course introduces the basic principles of epidemiologic study design, analysis, and interpretation through lectures, assignments, and critical appraisal of both classic and contemporary research articles.

Instructor(s): D. Lauderdale Terms Offered: Autumn

Prerequisite(s): STAT 22000 or other introductory statistics highly desirable. For BIOS students-completion of the first three quarters of a Biological Sciences Fundamentals sequence.

Equivalent Course(s): HLTH 20910, ENST 27400, STAT 22810, PPHA 36410

#### PBHS 31001. Epidemiologic Methods. 100 Units.

This course expands on the material presented in "Principles of Epidemiology," further exploring issues in the conduct of epidemiologic studies. The student will learn the application of both stratified and multivariate methods to the analysis of epidemiologic data. The final project will be to write the "specific aims" and "methods" sections of a research proposal on a topic of the student's choice.

Instructor(s): B. Chiu Terms Offered: Winter

Prerequisite(s): PBHS 30700 or PBHS 30900 or PBHS 30910 AND PBHS 32400 or applied statistics courses through multivariate regression.

Equivalent Course(s): STAT 35700

#### PBHS 31200. Cancer Epidemiology. 100 Units.

The purpose of this course is to review the basic concepts and issues relevant to cancer epidemiology. Specifically, this course will focus on interpreting cancer statistics, and describing the current state of knowledge regarding the etiology and risk factors for the major cancer sites. In addition, issues in research design and interpretation within the context of cancer epidemiology, as well as the molecular and cellular basis of carcinogenesis as it pertains to cancer occurrence in populations will be discussed. The course is appropriate for students who have an introductory knowledge of epidemiology. Previous study of cancer biology is helpful but not required.

Instructor(s): B. Chiu Terms Offered: Winter. Not offered 2019-20 Prerequisite(s): PBHS 30700 or PBHS 30910

#### PBHS 31300. Infectious Disease Epidemiology; Networks and Modeling. 100 Units.

This intermediate-level epidemiology course directed by two infectious disease epidemiologist-physicians will provide an up to date perspective on forgotten, contemporary and emerging infections. The course lectures and readings will provide a rigorous examination of the interactions among pathogens, hosts and the environment that produce disease in diverse populations. In addition to the demographic characteristics and the behaviors of individuals that are associated with a high risk of infection, we will examine complex aspects of the environment as they pertain to disease transmission. These include poverty, globalization, social networks, public health, and racial and ethnic disparities. Methodologic approaches to infectious disease epidemiology that will be covered include traditional study designs, molecular epidemiology, social network analysis, modeling, and network science. Local and global approaches will be applied to case studies from the United States, Asia, and Africa.

Instructor(s): TBN Terms Offered: TBD. Not offered in 2019-20.

Prerequisite(s): Biology majors: Three quarters of a Biological Sciences Fundamentals sequence. HSTD 30700 or HSTD 30910 or introductory epidemiology or consent of instructor

Equivalent Course(s): CCTS 43200, BIOS 25419, MEDC 31300

#### PBHS 31450. Social Inequalities in Health: Race/Ethnicity & Class. 100 Units.

This course examines how social stratification and social inequality shape racial/ethnic and socioeconomic inequalities in health. In particular, we will explore the production of race and class inequality in the US and draw on the extant theoretical and empirical literature to understand how these social factors influence health behaviors and health outcomes. Finally, we will review both the classic and emerging methodological approaches used by public health and social scientists to measure and test how these features of society get "under the skin" to shape a variety of health outcomes.

Instructor(s): Aresha Martinez-Cardoso and Diane Lauderdale Terms Offered: Spring. New course Spring 2020 Equivalent Course(s): HLTH 27450, PBHS 27450

#### PBHS 31510. Critical Readings in Epidemiology. 100 Units.

Course consists of reading and critiquing important and innovative recent papers in epidemiology. Each week, there will be a different substantive or disease focus for the papers. Research areas covered will be primarily, but not exclusively, in noninfectious diseases. Different faculty will lead the discussion each week and students will prepare and present summary critiques of the articles.

Instructor(s): TBN Terms Offered: Spring. Not offered in 2019-20. Prerequisite(s): PBHS 30700 or PBHS 30910

#### PBHS 31831. Genetic & Molecular Epidemiology. 100 Units.

This course is designed for students with strong research interests related to identifying and characterizing the role of genetic and molecular features in human disease. Students will be introduced to the key concepts and methodological issues encountered in epidemiological studies that utilize genetic and molecular data. This course will train students on the theoretical and practical aspects of study design and data generation, and also provide the relevant hands-on training for quality control, management, and analysis of large-scale genomic/molecular data. Students are expected to have taken prior coursework in epidemiology, biostatistics, and genetics.

Instructor(s): B. Pierce Terms Offered: Spring. Not offered in 2020-21

Prerequisite(s): PBHS 30700 or PBHS 30910 (or introductory epidemiology) AND HGEN 47000 or consent of instructor.
#### PBHS 31900. Global Health Metrics. 100 Units.

This course provides an overview of the causes of illness and injury in populations across the world and the most important risk factors. We will discuss how population health is measured using summary indicators that combine mortality and non-fatal health outcomes. We will use these indicators to compare and contrast the health of populations across global regions and in time. Sound measurement of the global burden of disease is essential for prioritizing prevention strategies. Therefore, there will be a strong emphasis on understanding how data sources in information-poor settings are used to generate estimates of population health.

Instructor(s): Kavi Bhalla Terms Offered: Spring

Prerequisite(s): N/A

Equivalent Course(s): PBPL 27905, PBHS 27900, HLTH 27905

#### PBHS 32100. Introduction to Biostatistics. 100 Units.

This course will provide an introduction to the basic concepts of statistics as applied to the bio-medical and public health sciences. Emphasis is on the use and interpretation of statistical tools for data analysis. Topics include (i) descriptive statistics; (ii) probability and sampling; (iii) the methods of statistical inference; and (iv) an introduction to linear and logistics regression.

Instructor(s): J. Cursio Terms Offered: Summer

Prerequisite(s): 2 quarters of pre-calculus

Note(s): \*In addition to the course, there is a statistical computing workshop.

Equivalent Course(s): CCTS 45000

# PBHS 32400. Applied Regression Analysis. 100 Units.

This course introduces the methods and applications of fitting and interpreting multiple regression models. The primary emphasis is on the method of least squares and its many varieties. Topics include the examination of residuals, the transformation of data, strategies and criteria for the selection of a regression equation, the use of dummy variables, tests of fit, nonlinear models, biases due to excluded variables and measurement error, and the use and interpretation of computer package regression programs. The techniques discussed are illustrated by many real examples involving data from both the natural and social sciences. Matrix notation is introduced as needed. Prerequisite: PBHS 32100. Equivalent Course(s): PBHS 32400

Terms Offered: Autumn Spring

Prerequisite(s): STAT 22000 or 23400 with a grade of at least C+, or STAT 22200 or 24500 or 24510 or PBHS 32100, or AP Statistics credit for STAT 22000. Also two quarters of calculus (MATH 13200 or 15200 or 15300 or 16200 or 16210 or 15910 or 19520 or 19620 or 20250 or 20300 or 20310). Evaluation of Course(3) STAT 22000.

Equivalent Course(s): STAT 22400

#### PBHS 32600. Analysis of Categorical Data. 100 Units.

This course covers statistical methods for the analysis of qualitative and counted data. Topics include description and inference for binomial and multinomial data using proportions and odds ratios; multi-way contingency tables; generalized linear models for discrete data; logistic regression for binary responses; multi-category logit models for nominal and ordinal responses; loglinear models for conted data; and inference for matched-pairs and correlated data. Applications and interpretations of statistical models are emphasized.

Terms Offered: Winter

Prerequisite(s): STAT 22000 or 23400 with a grade of at least C+, or STAT 22200 or 24500 or 24500 or 24510 or PBHS 32100, or AP Statistics credit for STAT 22000. Also two quarters of calculus (MATH 13200 or 15200 or 15300 or 16200 or 16210 or 15910 or 19520 or 19620 or 20250 or 20300 or 20310). Evaluation of the contract of contract on contract of contract on cont

Equivalent Course(s): STAT 22600

#### PBHS 32700. Biostatistical Methods. 100 Units.

This course is designed to provide students with tools for analyzing categorical, count, and time-to-event data frequently encountered in medicine, public health, and related biological and social sciences. This course emphasizes application of the methodology rather than statistical theory (e.g., recognition of the appropriate methods; interpretation and presentation of results). Methods covered include contingency table analysis, Kaplan-Meier survival analysis, Cox proportional-hazards survival analysis, logistic regression, and Poisson regression.

Instructor(s): J. Dignam Terms Offered: Winter

Prerequisite(s): PBHS 32400, STAT 22400 or STAT 24500 or equivalent or consent of instructor.

Equivalent Course(s): STAT 22700

#### PBHS 32901. Introduction to Clinical Trials. 100 Units.

This course will review major components of clinical trial conduct, including the formulation of clinical hypotheses and study endpoints, trial design, development of the research protocol, trial progress monitoring, analysis, and the summary and reporting of results. Other aspects of clinical trials to be discussed include ethical and regulatory issues in human subjects research, data quality control, meta-analytic overviews and consensus in treatment strategy resulting from clinical trials, and the broader impact of clinical trials on public health.

Instructor(s): Y. Ji Terms Offered: Winter

Prerequisite(s): PBHS 32100 or STAT 22000; Introductory Statistics or Consent of Instructor Equivalent Course(s): STAT 35201

#### PBHS 33200. Statistical Analysis with Missing Data. 100 Units.

This course is intended to introduce basic concepts and provide a guide to conducting missing data analysis using the statistical software R. The course will cover topics including Expectation-Maximization algorithm, weighting methods, imputation and other likelihood-based approaches to the analysis of missing data. Some other relevant topics will also be introduced, such as non-ignorable missing data, machine learning methods and multivariate missing data analysis. Computation and application will be emphasized, rather than statistical theory. In the end of the course, the students are expected to complete a final project related to missing data analysis.

Instructor(s): L. Chen Terms Offered: TBD. Not offered in 2019-20.

Prerequisite(s): PBHS 32400/STAT 22400; or STAT 24500; or equivalent; and basic programming skill using R or equivalent

#### PBHS 33300. Applied Longitudinal Data Analysis. 100 Units.

Longitudinal data consist of multiple measures over time on a sample of individuals. This type of data occurs extensively in both observational and experimental biomedical and public health studies, as well as in studies in sociology and applied economics. This course will provide an introduction to the principles and methods for the analysis of longitudinal data. Whereas some supporting statistical theory will be given, emphasis will be on data analysis and interpretation of models for longitudinal data. Problems will be motivated by applications in epidemiology, clinical medicine, health services research, and disease natural history studies.

Instructor(s): D. Hedeker Terms Offered: Spring

Prerequisite(s): PBHS 32400/STAT 22400 or equivalent, and PBHS 32600/STAT 22600 or PBHS 32700/STAT 22700 or equivalent; or consent of instructor.

Equivalent Course(s): CHDV 32501, STAT 36900

#### PBHS 33400. Multilevel Modeling. 100 Units.

This course will focus on the analysis of multilevel data in which subjects are nested within clusters (e.g., health care providers, hospitals). The focus will be on clustered data, and several extensions to the basic two-level multilevel model will be considered including three-level, cross-classified, multiple membership, and multivariate models. In addition to models for continuous outcomes, methods for non-normal outcomes will be covered, including multilevel models for dichotomous, ordinal, imme-to-event, and count outcomes. Some statistical theory will be given, but the focus will be on application and interpretation of the statistical analyses.

Instructor(s): D. Hedeker Terms Offered: Autumn

Prerequisite(s): PBHS 32400 and PBHS 32700 or consent of instructor.

Equivalent Course(s): CHDV 32401

## PBHS 33500. Statistical Applications. 100 Units.

This course provides a transition between statistical theory and practice. The course will cover statistical applications in medicine, mental health, environmental science, analytical chemistry, and public policy. Lectures are oriented around specific examples from a variety of content areas. Opportunities for the class to work on interesting applied problems presented by U of C faculty will be provided. Although an overview, of relevant statistical theory will be presented, emphasis is on the development of statistical solutions to interesting applied problems.

Instructor(s): R. Gibbons Terms Offered: Autumn

Prerequisite(s): PBHS 32700/STAT 22700 or STAT 34700 or consent of instructor.

Equivalent Course(s): CHDV 32702, STAT 35800

#### PBHS 35100. Health Services Research Methods. 100 Units.

The purpose of this course is to better acquaint students with the methodological issues of research design and data analysis widely used in empirical health services research. To deal with these methods, the course will use a combination of readings, lectures, problem sets (using STATA), and discussion of applications. The course assumes that students have had a prior course in statistics, including the use of linear regression methods.

Instructor(s): P. Sanghavi Terms Offered: Spring

Prerequisite(s): At least one course in linear regression and basic familiarity with STATA; or consent of instructor. Equivalent Course(s): PPHA 38010, SSAD 46300, HLTH 29100

#### PBHS 35500. Introduction to U.S. Health Policy and Politics. 100 Units.

The purpose of this course is to introduce students to the concepts needed to critically evaluate U.S. health policy issues. The course will 1) provide an overview of the U.S. health system including its institutions, stakeholders, and financing mechanisms, 2) describe the politics of health and illuminate how the structure of our political system shapes health policy outcomes, and 3) offer a framework for assessing the critical features central to health policy debates. Building upon this knowledge, the course will conclude with a discussion of strategies for influencing the health policy process and how they might be employed in future leadership roles within the health sector.

Instructor(s): Loren Saulsberry Terms Offered: Spring

Prerequisite(s): None

Equivalent Course(s): PBHS 28500, SSAD 45011, HLTH 25500, PPHA 37720

#### PBHS 38010. Introduction to Health Economics. 100 Units.

This course covers the foundations of the economics of health care. Content includes demand for health, medical care, and insurance; supply of medical care and behavior of health care practitioners; and economic perspectives on measurement in health care research. Using a combination of lectures, readings, and problem sets, the goal is for students to acquire a basic understanding of economic knowledge and thinking that can be applied to current challenges in health care policy and practice. The course is open to undergraduate and graduate students with at least one prior course in microeconomics. Instructor(s): T. Konetzka Terms Offered: Winter 2019-20

Prerequisite(s): Microeconomics course

Equivalent Course(s): PPHA 38290, PBHS 28010, HLTH 28010

# PBHS 38400. Advanced Topics in Health Economics. 100 Units.

The purpose of this course is to provide substantial exposure to the state of the evidence and the major theoretical and empirical approaches used to study salient issues in health economics. Selected topics may vary from year to year; examples include health capital, health insurance, health behaviors, health care market structure and competition, not-for-profit ownership, payment incentives, and the effects of information on provider behavior (e.g., public reporting and value-based purchasing) and consumer behavior (e.g., advertising and medical decision making)

Instructor(s): T. Konetzka Terms Offered: Winter. Not offered in 2019-20

Prerequisite(s): Graduate courses in microeconomics and econometrics or statistics, including the use of linear and nonlinear regression methods.

#### PBHS 39000. Master's Readings: Public Health Sciences. 300.00 Units.

Arrange course content and meeting times with instructor.

#### PBHS 39100. Master's Research: Public Health Sciences. 300.00 Units.

Arrange course content and meeting times with instructor.

PBHS 40000. Public Health Sciences PhD Research & Training. 300.00 Units. Arrange course content and meeting times with instructor.

PBHS 40100. Advanced Topics in Ethics for Public Health Sciences. 50 Units.

# Arrange course content and meeting times with instructor.

# PBHS 40500. Advanced Epidemiologic Methods. 100 Units.

This course examines some features of study design, but is primarily focused on analytic issues encountered in epidemiologic research. The objective of this course is to enable students to conduct thoughtful analysis of epidemiologic and other population research data. Concepts and methods that will be covered include: matching, sampling, conditional logistic regression, survival analysis, ordinal and polytomous logistic regressions, multiple imputation, and screening and diagnostic test evaluation. The course follows in sequence the material presented in "Epidemiologic Methods." Instructor(s): D. Huo Terms Offered: Spring

Prerequisite(s): PBHS 31001

#### PBHS 43010. Applied Bayesian Modeling and Inference. 100 Units.

Course begins with basic probability and distribution theory, and covers a wide range of topics related to Bayesian modeling, computation, and inference. Significant amount of effort will be directed to teaching students on how to build and apply hierarchical models and perform posterior inference. The first half of the course will be focused on basic theory, modeling, and computation using Markov chain Monte Carlo methods, and the second half of the course will be about advanced models and applications. Computation and application will be emphasized so that students will be able to solve real-world problems with Bayesian techniques.

Instructor(s): Y. Ji Terms Offered: TBD

Prerequisite(s): STAT 24400 and STAT 24500 or master level training in statistics.

Equivalent Course(s): STAT 35920

#### PBHS 43201. Introduction to Causal Inference. 100 Units.

This course is designed for graduate students and advanced undergraduate students from the social sciences, education, public health science, public policy, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The goal of this course is to equip students with basic knowledge of and analytic skills in causal inference. Topics for the course will include the potential outcomes framework for causal inference; experimental and observational studies; identification assumptions for causal parameters; potential pifalls of using ANCOVA to estimate a causal effect; propensity score based methods including matching, stratification, inverse-probability-of-treatment-weighting (IPTW), marginal mean weighting through stratification (MMWS), and doubly robust estimation; the instrumental variable (IV) method; regression discontinuity design (RDD) including sharp RDD and fuzzy RDD; difference in difference (DID) and generalized DID methods for cross-section and panel data, and fixed effects model. Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 is a prerequisite. This course is a prerequisite for "Advanced Topics in Causal Inference" and "Mediation, moderation, and spillover effects." Instructor(s): G. Hong Terms Offered: Winter

Prerequisite(s): Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 Note(s): CHDV Distribution: M; M

Equivalent Course(s): PLSC 30102, CHDV 30102, MACS 51000, SOCI 30315, STAT 31900

#### PBHS 45610. Policy Analysis: Meths/Apps. 100 Units.

This master's-level course provides students with the basic tools of policy analysis. Students will learn and apply tools of decision analysis in written group assignments and in an accompanying computer lab. Students will also learn and apply concepts of cost-effectiveness, cost-benefit, and cost-utility analysis with social service, medical, public health applications. Doctoral students and master's students who intend to take the course Advanced Applications of Cost-Effectiveness Analysis in Health will complete two additional laboratory assignments. Topics to be covered include: Decision trees for structured policy analysis, the economic value of information, analysis of screening programs for HIV and child maltreatment, sensitivity analysis, cost-effectiveness analysis of life-saving interventions and programs to reduce behavioral risk, valuing quality of life outcomes, ethical issues in cost-benefit analysis, analysis of irrational risk behaviors. Substantive areas covered include: HIV/substance use prevention, school-based prevention of sexual risk, smoking cessation, and housing policy-relevant examples. They will conduct one-way and two-way sensitivity analysis to explore the impact of key parameters on cost-effectiveness of alternative policies. Students will receive an introduction to dynamic modeling in the context of HIV prevention, cancer screening, and transportation programs. Equivalent Course(5): SSAD 45600, PPHA 40101

#### PBHS 49000. Ph. D. Rdgs: Public Health Sciences. 300.00 Units.

Arrange course content and meeting times with instructor.

PBHS 49100. Ph. D. Rsch: Public Health Sciences. 300.00 Units. Arrange course content and meeting times with instructor.

PBHS 70000. Advanced Study: Public Health Sciences. 300.00 Units. Advanced Study: Public Health Sciences



# Clinical Departments in the Biological Sciences

Faculty in the Division of the Biological Sciences participate in undergraduate and graduate medical education through the Pritzker School of Medicine, and maintain a vital clinical enterprise through the University of Chicago Medical Center. Twelve clinical departments offer a wide variety of educational and research opportunities to students and treatment options to patients. In addition, one of these departments, described in the section on the Basic Biological Sciences, offers graduate programs leading to the PhD degree: Radiology (Medical Physics). Brief descriptions of each of the clinical departments appear below. Additional details about our clinical departments can be found by visiting the Biological Sciences Division (http://biologicalsciences.uchicago.edu) and Pritzker School of Medicine (http://pritzker.uchicago.edu) websites.

#### Department of Anesthesia and Critical Care

The Department of Anesthesia and Critical Care offers clinical training and educational and research opportunities for qualified students at all levels. While one mission of the department is to provide high quality clinical anesthesia (including pain therapy, intensive care, and perioperative management), the Department of Anesthesia and Critical Care also maintains active research programs in neurobiology, echocardiography, patient safety, psychomotor pharmacology, clinical pharmacology (including herbal medications in conjunction with the TANG Center), and outcomes research. Educational opportunities for students occur at the undergraduate level, in graduate courses that are led by our faculty, during the course of the medical school curriculum, and at the post graduate level. We also provide pre doctoral and post doctoral positions in our laboratories and provide post residency clinical training in critical care, pain management, cardiothoracic anesthesia and pediatric anesthesia. Individuals seeking opportunities for research or study within the department are invited to call the Chairman of the Department of Anesthesia and Critical Care, Pritzker School of Medicine, 5841 South Maryland Avenue, MC 4028, Chicago, IL 60637, telephone: (773) 702-2545.

#### Department of Family Medicine

The Department of Family Medicine was established by Bernard Ewigman, MD MSPH, who was recruited as the Founding Chairman in 2002. Since that time, the Department has grown to include many clinical practices, over 70 faculty members, medical student education, a residency program, fellowship programs, and a practice based research network. The Department is based primarily at the University of Chicago, the NorthShore University Health System and in the communities served both on the south and north sides of the Chicagoland area. The Department is unique in its focus on community based practice, education in community based settings, and research and scholarship relevant to improving primary care in both urban and suburban practice and the health of the communities we serve.

#### Department of Medicine

The Department of Medicine is comprised of nearly 300 full-time faculty members who provide clinical, translational, and basic research training for individuals at all levels, including College, undergraduate medical, graduate medical, and post-doctoral trainees. Because of the diverse interests of the faculty, the department is organized into sub-specialty sections with each represented by nationally recognized leaders in their field. The sections include cardiology, computational medicine, dermatology, endocrinology, emergency medicine, gastroenterology, geriatrics, general internal medicine, genetic medicine, hospital medicine, nephrology, infectious disease, hematology/oncology, pulmonary/critical care medicine and rheumatology.

The Department of Medicine has a long tradition of conducting original and rigorous biomedical and clinical research of fundamental significance in addition to providing a full range of outpatient, inpatient, and consultative services. Trainees can work with departmental faculty through participation in degree granting programs in the Pritzker School of Medicine or graduate programs, post-graduate residency and fellowship programs, or other specialty research programs.

Further information can be obtained from the appropriate degree granting entity or post-graduate training program. General questions can be directed to the Vice Chairs for Research: Dr. Julian Solway or Dr. Bana Jabri.

#### Department of Neurology

The Department of Neurology offers clinical training and research opportunities in the study of the nervous system and in neurological disorders. The department has a number of educational programs directed towards medical students, graduate students, residency fellows. These programs offer instruction in basic and translational research and in clinical neurology as well as the subspecialties of neurology that include pediatric neurology, neuroimnunology, neurovirology, clinical neurophysiology and sleep disorders, stroke, movement disorders and cognitive disorders. The department does not admit students nor offer a degree program. Nevertheless, opportunities are available for students who have been admitted to a Ph.D. program to pursue research under the direction of several of the department's faculty who direct laboratory research programs in basic neuroscience and/or neurological disease research. Post doctoral and post residency popriunities for research. Please contact the department at (773) 702–7860

#### Department of Obstetrics and Gynecology

The Department of Obstetrics and Gynecology is located in the Chicago Lying-in Hospital in Hyde Park, which is an integral part of the University of Chicago Medical Center complex. The department is dedicated to the health care of women and has an outpatient clinic adjacent to the hospital. The faculty care for women with high risk pregnancies, gynecologic malignancies, those requiring complex gynecologic and pelvic reconstructive surgery as well as minimal invasive surgery,

reproductive health and complex contraception, and problems of reproductive endocrinology & infertility, including assisted reproductive technologies.

The educational activities of the department are multi-faceted and include medical students, residents and fellows under the supervision of the faculty. We have recently established an affiliation with an excellent community-based academic institution in Evanston, NorthShore University Health System. This led to a major expansion of our clinical and research activities which are carried out within the department at both sites and encompass basic translational laboratory investigation, clinical trials and population-based epidemiology. We encourage students, interns, and residents to participate in these scientific endeavors and a large number pursue careers in academic medicine.

Our Departmental activities take place in the outpatient setting, the labor and delivery suite, the operating rooms, the inpatient wards, and in our laboratories. Research opportunities are available in all the subspecialty areas as well as genetics. Subspecialty fellowships are also available in Family Planning, Maternal-Fetal Medicine and Urogynecology and Pelvic Reconstructive Surgery. For more information, please call (773) 702-6726.

#### Department of Pathology

Please see the listing under http://pathology.uchicago.edu/

#### Department of Pediatrics

The Department of Pediatrics offers instruction and research in normal and abnormal growth and development of infants and children and in the prevention, diagnosis and treatment of illness in children. All educational activities are integrated with research and scholarly endeavors to advance knowledge in the field of child healthcare. The Department of Pediatrics has clinical and research facilities at the University of Chicago Medicine Comer Children's Hospital; at La Rabida Children's Hospital and Research Center (children's chronic diseases); at the University of Chicago Friend Family Health Center at 55th and Cottage Grove Avenue; and at ambulatory clinical facilities at pediatric offices located in the southern suburbs and northwest Indiana.

Comprising over 100 faculty and research associates, the department conducts extensive research programs in a wide range of disciplines related to child health, growth, development and public policy. Research is conducted at all of the sites mentioned above. Postdoctoral fellows, both M.D.s and Ph.D.s, as well as undergraduate medical students conduct research and receive research education guided by departmental faculty.

Candidates for graduate and post graduate study are invited to visit with the various faculty to explore a wide range of opportunities. Contact the office of the department chair at the University of Chicago Medicine Comer Children's Hospital, 5721 South Maryland Avenue, MC8000, Suite K160, Chicago, IL 60637, or call (773) 702-6205.

#### Department of Psychiatry and Behavioral Neuroscience

Full time faculty in the Department of Psychiatry and Behavioral Neuroscience teach and deliver inpatient, outpatient, and consultation services in mood disorders, anxiety disorders, personality disorders, eating disorders, addictive disorders, and schizophrenia. Primary and affiliated teaching and clinical institutions besides the University of Chicago Medical Center include Evanston Hospital and Chicago Lakeshore Hospital. Assessments include psychiatric diagnostic evaluation, psychological testing, neuropsychological testing, and other structured evaluations. Interventions may include a broad range of individual, family, and group therapies, including cognitive behavioral, psychodynamic, and psychopharmacologic treatments. Electroconvulsive therapy is available. Specialties in the Child and Adolescent Section include attention deficit hyperactivity disorder, disruptive behavior disorders, developmental disorders, behavioral and learning difficulties. Major research efforts across the Department are in molecular pharmacology, behavioral psychopharmacology, behavioral and molecular genetics, affective neuroscience and neuroimaging, and psychopharmacology.

The department does not offer any degrees, but elective opportunities are available for degree candidates from other programs. Major educational opportunities for medical students, graduate students, interns, residents, fellows, other physicians and clinical psychologists are linked to through http://psychiatry.uchicago.edu/.

For more information, please contact the Psychiatry Office of Education at (773) 702-0529 or the Chair of Psychiatry at (773) 834-7008, further contact information available at http://psychiatry.uchicago.edu/.

#### Department of Radiation and Cellular Oncology

The Department of Radiation and Cellular Oncology currently provides clinical radiation oncology services at four practice locations: the University of Chicago's Center for Advanced Medicine (DCAM), the Outpatient Care Center (OCC) at the University of Illinois at Chicago, the University of Chicago Comprehensive Cancer Center at Silver Cross, and at Sherman Hospital. Approximately 1900 patients per year are treated at these facilities. State of the art clinical facilities include 8 image-guided linear accelerator treatment systems, stereotactic radiosurgery/stereotactic body radiotherapy, high dose-rate brachytherapy, and multislice wide-bore CT scanners.

The department conducts basic and translational research in cancer biology, radiation treatment physics and radiation biology. The department stresses a basic science approach to radiation oncology and state of the art investigation of molecular aspects of cancer through joint research programs with faculty members in the Division of the Biological Sciences. In addition a broad spectrum of clinical research is supported, including internal and multi-institutional treatment protocols and outcomes analysis. The Department of Radiation and Cellular Oncology, in conjunction with the Department of Radiology, offers programs leading to the Ph.D. degree in medical physics. For more information, refer to the Committee in Medical Physics listing.

#### Department of Radiology

Please see the Graduate Program in Medical Physics listing under Basic Biological Sciences.

#### Department of Surgery

The Department of Surgery has a very active research program spanning the basic, translational, and clinical sciences. While traditionally surgery has focused on the excision of diseased tissues and repair of injury, it is now equally concerned with specific interventions that facilitate tissue regeneration, supplement the body through the transplantation of organs and the implantation of synthetic materials and tissues developed in vitro, and target particular diseased cells or modulate the behavior of normal cells.

Research in the Department of Surgery is organized into several focus areas including transplantation immunology and inflammation, carcinogenesis and metastasis, tissue regeneration and engineering, and cardiothoracic and vascular research. Each of these areas encompasses multiple clinical specialties within the department.

Specific current research programs include studies of the immune response to synthetic materials, mechanisms of immune tolerance in transplantation, crosstalk between the intestinal microbiome and the intestinal epithelium, molecular therapeutic strategies in brain cancer, tumorigenesis and metastasis in prostate and ovarian cancer, and signaling mechanisms in heart failure.

Faculty members of the Department of Surgery teach in a number of courses in the College and are members of a variety of graduate programs in the Biological Sciences Division. They are also extensively involved in the Medical Scientist Training Program (M.D.-Ph.D). Undergraduate, graduate and medical students interested in participating in research within the department should contact individual investigators.



# The Pritzker School of Medicine

#### Mission

At the University of Chicago, in an atmosphere of interdisciplinary scholarship and discovery, the Pritzker School of Medicine is dedicated to inspiring diverse students of exceptional promise to become leaders and innovators in science and medicine for the betterment of humanity.

#### Overview

The University of Chicago matriculated its first class of medical students in 1927 and today is a national leader in training physicians and physician-scientists. The great traditions which underlie the school's history include the presence of a full-time teaching faculty devoted to working with students, a strong emphasis on research and discovery, and a commitment to translating the most recent advances in biomedical science to the bedside.

The Pritzker School of Medicine is unique among medical schools in that it is on the campus of a major research university, allowing our medical students ample opportunity to find and participate in extracurricular activities and to take in cultural attractions and events. In 2009, the Pritzker School of Medicine began rolling out a reorganized curriculum, known as the Pritzker Initiative. This curriculum emphasizes active learning, integration among the clinical and basic sciences, and scholarship and discovery. Building on Pritzker's legacy of producing research scholars, the curriculum also includes a Scholarship and Discovery thread which requires the completion of a mentored scholarly project.

#### The University of Chicago Medicine

The University of Chicago Medicine, which includes the Center for Care and Discovery, plus Comer Children's Hospital, Bernard A. Mitchell Hospital and the Duchossois Center for Advanced Medicine, serves as the teaching facility for the Pritzker School of Medicine.

The medical center is a leader in research and treatment of disorders such as cancer, gastrointestinal disease, diabetes, lung disease, heart disease, neurological disorders, musculoskeletal disorders and others. It houses more than 100 specialty clinics and provides medical care during more than 500,000 in-hospital, outpatient and emergency room visits a year.

University of Chicago Medicine currently has more than 800 physicians and 1,600 nurses, as well as more than 900 residents and fellows (physicians working in advanced specialty training in medical science, leading to specialty board certification). It is a major provider of health care for the immediate neighborhood of more than 700,000 people, and has engaged in a long-term effort to construct a more rational collaborative system of doctors' offices, clinics, community hospitals and academic centers to provide care for all the people who live on the South Side of Chicago. Community-based training opportunities include relationships with nearby physicians and hospitals, and an academic affiliation with the NorthShore University Health System, which includes three suburban hospitals. It has regional burn and perinatal units. Clinical experiences are also offered at LaRabida Children's Hospital (https://larabida.org/) and Lake Shore HealthCare Rehabilitation Centre.

Please visit http://pritzker.uchicago.edu for complete information on our curriculum, our initiatives, and application instructions.

#### NorthShore University Health System

Headquartered in Evanston, Ill., NorthShore University HealthSystem (NorthShore) is a comprehensive, fully integrated, healthcare delivery system that serves the greater North Shore and northern Illinois communities. The system includes four Hospitals – Evanston Hospital, Glenbrook Hospital, Highland Park Hospital and Skokie Hospital. In addition, the health system has more than 2,400 affiliated physicians, including a 600-physician, multispecialty physician group practice with over 70 office locations - NorthShore University HealthSystem Medical Group. Further, NorthShore is committed to excellence in its academic mission and supports teaching and research as the principal teaching affiliate for the University of Chicago Pritzker School of Medicine.

The NorthShore University HealthSystem Research Institute focuses on clinical and translational research, including leadership in outcomes research and clinical trials.

The HealthSystem has significant capabilities in a wide spectrum of clinical programs, including neurosciences, cancer, heart, orthopaedics, high-risk maternity and pediatrics. NorthShore is a national leader in the implementation of innovative technologies, including electronic medical records, (EMR). In 2003, the HealthSystem was among the first in the country to successfully launch a system wide EMR with demonstrable benefits in quality, safety and service to patients. NorthShore has been recognized by multiple national organizations for this notable achievement.

#### Combined MD/PhD Programs in the Division of the Biological Sciences and Pritzker School of Medicine

The University of Chicago's Pritzker School of Medicine has an exceptionally rich tradition of interdisciplinary scholarship. Each year, typically 15 to 20 percent of the graduating medical school class also graduates with a PhD. In the spirit of this tradition, the Pritzker School of Medicine offers a wide selection of joint degree programs for individuals interested in the critical interface of medicine, biological sciences, and society.

Students interested in combining clinical and biomedical research can combine their MD training with education toward a PhD in one of the degree granting units (see section on Basic Sciences) within the Biological Sciences Division. The Pritzker School of Medicine is also home to several highly competitive and award winning NIH funded MD/PhD training programs including the Medical Scientist Training Program (MSTP) and the Growth, Development and Disabilities Training Program (GDDTP). Students interested in pursuing a PhD degree in the Humanities or Social Sciences can do so as part of a unique MD-PhD program in Medicine, Social Sciences and Humanities (MESH). Students may also graduate with additional master degrees in business, law or policy.

For further information about this program, please visit: http://pritzker.uchicago.edu/page/joint-degrees (http:// pritzker.uchicago.edu/page/joint-degrees/)

#### Medical Scientist Training Program

The University of Chicago Medical Scientist Training Program is a challenging interdisciplinary training program in biomedical sciences which leads to an MD from the Pritzker School of Medicine and to a PhD in the Interdisciplinary Scientist Training Program (ISTP). Our trainees graduate prepared to assume successful leadership roles in the evolving world of 21<sup>st</sup> century academic biomedicine. Being one of the earliest programs to obtain federal funding in 1967, the MSTP at the University of Chicago is currently one of the longest running in the country.

The MD is awarded through the Pritzker School of Medicine, one of the top 10 graduate schools in the nation. With the introduction of the Pritzker Initiative in Autumn 2009, students will be educated in smaller classes with more individual attention from faculty, with an emphasis on active learning and scholarship, will be integrated among disciplines when possible, and in an atmosphere that highlights the relationship between basic and clinical sciences.

For their graduate work, trainees will be part of the ISTP, the degree-granting arm of the MSTP. This program is a novel, adaptable mechanism for students to obtain highly-integrated, interdisciplinary training. Trainees will be part of a flexible PhD program that offers superb educational opportunities and rigorous training in the highly integrated environment of Chicago Biomedicine at The University of Chicago. The ISTP also provides a programmatic identity that fosters a seamless progression of our students through the medical and graduate phases of their training.

The program is designed for students who seek broad careers in biomedical related research and a desire to apply both clinical and research expertise to solve the most pressing problems in medical science. Typically students begin their full-time PhD research after completion of their first year of medical studies and return to medical school after they have successfully defended their PhD thesis. On average, MSTP trainees complete both degrees in 8 years.

For further information about this program, please visit: http://pritzker.uchicago.edu/page/mstp-medical-scientist-training-program (http://pritzker.uchicago.edu/page/mstp-medical-scientist-training-program/)

#### Growth, Development and Disabilities Training Program

The Growth, Development and Disabilities Training Program (GDDTP) is a unique opportunity available to University of Chicago medical students who decide to pursue an advanced PhD degree after they have started medical school. The program began over 40 years ago and in 2003 received the first NICHD Mentor Award for Excellence in Research Training.

Entry into the program is available for students who have completed two years (occasionally one year) of medical studies. Students wishing to be considered for the program generally acquire relevant laboratory experience, fulfill at least some graduate courses requirements and seek out a research sponsor and graduate degree unit during their first two years of medical studies, in anticipation of their application to the program.

The program is unique in that it offers medical students the opportunity to pursue a PhD degree after they have started medical school. This represents a major opportunity for students at the Pritzker School of Medicine, who frequently become so enthusiastic about research during their first or second year of medical school that they decide to take a leave from medical studies to pursue a PhD degree. A wide variety of PhD degree granting units is available to trainees, most often in the Biological Sciences Division.

Students interested in the program may submit formal applications in the winter quarter of their first or second year of medical studies. When all necessary supporting material, including transcripts and letters of recommendation, is received, the students undergo two formal interviews. Decisions are announced in the spring, with appointment to the grant in July. Demonstrated interest and commitment to basic research, as evidenced by prior experience and accomplishment, as well as strong academic record, are major criteria for selection.

Trainees in the program receive a maximum of five years of support which generally includes three years of support during the PhD phase and the remainder of the MD training (the two clinical years). Financial aid covers full tuition, fees and a stipend supplemented to national competitive levels to support living expenses.

For further information about this program, please visit: http://pritzker.uchicago.edu/page/growth-development-and-disabilities-training-program (http://pritzker.uchicago.edu/page/growth-development-and-disabilities-training-program/)

#### MD-PhD Program in Medicine, Social Sciences and Humanities (MESH)

The program is based on the premise that physicians should acquire special competence in another area of scholarship in order to address the overlapping social, economic, scientific, ethical, legal and humanistic problems which medicine as an enterprise, and as a profession, faces today. Doctoral studies may be pursued in any of the departments within the social sciences (including Anthropology, Economics, History, Philosophy, Political Science, Psychology or Sociology) or humanities, in the Committee on Social Thought or the Conceptual and Historical Studies of Science Division, or the schools of divinity or public policy. Research may also be conducted through the Center for Health and the Social Sciences, the Morris Fishbein Center for the Study of the History and Science of Medicine, or the MacLean Center for Clinical Medical Ethics. Following completion of their doctoral studies, students in the program are expected to return to medical school to resume work toward the MD degree.

For further information about this program, please visit: http://pritzker.uchicago.edu/page/md-phd-programs-medicine-social-sciences-and-humanities (http://pritzker.uchicago.edu/page/md-phd-programs-medicine-social-sciences-and-humanities/)



# The Division of the Humanities

Dean

Anne W. Robertson

Dean of Students

Shea Wolfe

Students in the Division of the Humanities investigate the varied achievements of the human mind in language and literature, music, the visual arts, and philosophy. These investigations can range from the methods of the established humanistic disciplines to the newer alliances of humanities and social sciences, from the history of a civilization to the philosophy of science, from the aesthetics of a literary genre to the broader cultural occasions that bring the visual arts into contact with linguistic theory or musicology into contact with anthropology. The division regards a multiplicity of questions and approaches as the hallmark of its intellectual life and encourages its students to share in this diversity.

The academic units of the division guide and support the students' scholarly interests and inquiry and are correspondingly varied. These programs of study are described in detail in this section of the Announcements.

The University is known for its interdisciplinary approach. Students cross disciplines easily by taking courses in different fields as well as through participation in Graduate Workshops, established under the auspices of the Council on Advanced Studies. These interdisciplinary workshops bring together students and faculty in the Divinity School, the Division of the Humanities, and the Division of Social Sciences for ongoing and collaborative exchange of ideas around particular areas of interest. Interdisciplinary work also takes place in many different venues such as the Centers for Area Studies, Interdisciplinary Centers, and Interdisciplinary Programs. The interdisciplinary and area centers are described in another section of these Announcements.

#### Admission to the Division

The Division of the Humanities invites applications from students whose breadth of academic experience and fitness for the specific field of study suggest the potential for scholarly achievement. In general, only applicants holding the bachelors degree or equivalent, with excellent academic records, are admitted. Faculty recommendations and the applicant's statement of purpose are carefully weighed. Research papers, publications, and other works may also be considered by the admissions committees during their evaluations. The admissions selection committee for each department reviews all the applications submitted by the deadline for admission for autumn quarter of the following year. During this selection, all available places and financial aid are allocated for the following academic year. An offer of admission is made only for the next academic year and cannot be deferred.



# Master of Arts in Digital Studies of Language, Culture, and History

Department Website: http://digitalstudies.uchicago.edu

#### People

- Faculty Director: David Schloen
- Digital Studies Faculty Board (https://digitalstudies.uchicago.edu/people/)

# Overview

The University of Chicago's **Program in Digital Studies of Language, Culture, and History** provides a one-year Master of Arts (https://digitalstudies.uchicago.edu/overview-timeline/) curriculum intended for full-time students who have a bachelor's degree in the humanities or humanistic social sciences. This program provides students with a solid grounding in computational methods and their use in the humanities while allowing flexibility to explore a particular interest in an area such as computational linguistics, digital literary studies, digital arts and media studies, digital history, digital philology, or digital archaeology and art history.

The Digital Studies courses (https://digitalstudies.uchicago.edu/course-descriptions/) are designed to foster, not only technical skills in coding and data analysis, but also a deeper understanding of the history and cultural implications of digital computing from the perspective of the humanities. Students in these courses are introduced to computer programming and the use of software libraries via three widely used programming languages: Python, R, and JavaScript. Learning to code in these languages is the gateway for students to understand and use cutting-edge digital tools and data standards to manage, analyze, and publish data, with emphasis on the kinds of data—textual, visual, sonic, spatial, and temporal—commonly encountered in the humanities.

This curriculum enables students, not just to understand and use computational methods, but to see digital computing as a cultural activity in its own right—an activity to be studied with respect to its historical development, social setting, cultural impact, and aesthetic qualities, as well as the ethical dilemmas it creates in our increasingly digitized and networked world.

The MA in Digital Studies is a stepping stone to a number of different careers that require a combination of computing skills with an education in the humanities through which students will have acquired much-needed skills in writing and critical thinking. Graduates of this program are eligible for non-academic jobs in software development or in software-related marketing, communications, and technical writing; or they may pursue doctoral studies in order to apply their computational skills to research and teaching; or they may take on an academic support role in digital humanities at a college, university, or cultural institution.

# Degree Requirements

The MA program in Digital Studies of Language, Culture, and History is a one-year program in which students take 11 courses (9 for credit and 2 non-credit) from early September to early June and complete an MA thesis by the end of July. The course requirements are broken down as follows:

- 1 three-week intensive September course (non-credit) on computer programming using the Python programming language, immediately preceding the Autumn Quarter.
- 1 discussion-oriented seminar in the Autumn Quarter on the history of computing and current debates in digital humanities.
- 5 courses on data management, data analysis, data publication, and natural language processing (2 in Autumn, 2 in Winter, 1 in Spring).
- 3 elective courses in any field of the humanities or humanistic social sciences (1 in Winter and 2 in Spring); at least one of the elective courses must have a digital component.
- 1 thesis preparation course (non-credit) that entails regular meetings with a faculty adviser.
- completion of the MA thesis project no later than July 31 for graduation at the end of the Summer Quarter.

# September (before the start of the Autumn Quarter)

DIGS 30000. Introduction to Computer Programming (intensive 3-week non-credit course

# Autumn Quarter

- DIGS 30002 Data Analysis for the Humanities I
- DIGS 30003 Data Management for the Humanities
- DIGS 30007 Introduction to Digital Humanities

# Winter Quarter

- DIGS 30004 Data Analysis for the Humanities II
- DIGS 30005 Data Publication for the Humanities
- Approved elective

Spring Quarter

- DIGS 30006 Natural Language Processing
- DIGS 30008 Thesis Preparation
- Approved elective
- Approved elective

#### Summer Quarter

- Completion of the MA thesis project, which must be submitted to the faculty adviser and to the Director of
  Digital Studies by July 31 in order for the student to graduate with the MA in Digital Studies at the end of the Summer
  Quarter.
  - Students may participate in the June Convocation (https://convocation.uchicago.edu/) at the end of the Spring
    Quarter provided that they have fulfilled all of their MA degree requirements except for the thesis, but they will
    not receive the MA degree until the MA thesis has been completed and deemed acceptable.
  - Students who complete the MA thesis early and submit it by **May 15** are eligible to graduate with the MA degree in June; however, most students will require more time to complete the thesis and will submit it by July 31 in the expectation of receiving the MA degree at the end of the Summer Quarter.
  - Students do not need to register for any courses in the Summer Quarter and they are not required to be in
    residence in the Chicago area while they complete their MA thesis projects.

#### Admission

The Master of Arts in Digital Studies of Language, Culture, and History program welcomes a cohort of students dedicated to exploring humanistic knowledge in the digital realm.

#### Information on How to Apply

The application process for admission and financial aid for all graduate programs in the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/admissions.

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu, or call them at (773) 702-7752.

#### Contact Information

- digitalstudies@uchicago.edu
- (773) 702-1552

# Digital Studies Courses

#### DIGS 30000. Introduction to Computer Programming for Digital Studies MA Students. 000 Units.

This is a three-week intensive non-credit course that is offered in September, before the Autumn Quarter. It provides an introduction to computer programming and computational concepts using the Python programming language. It is a prerequisite for the other Digital Studies core courses (students who are already experts in Python may request an exemption from taking this course, subject to the approval of the Director of Digital Studies). The intensive version of this course in September is primarily intended for incoming students in the one-year Digital Studies MA program, who are given priority in enrollment. Space permitting, however, it is open to undergraduate and graduate students in other programs (undergraduates will enroll via the Summer Session using the DIGS 20001 course code while graduate students will enroll using the DIGS 30000 course code). However, students who are not in the one-year Digital Studies MA program should plan to take the non-intensive version of this course in the joint BA/ MA program in Digital Studies are encouraged to take the non-intensive version of this course in the Spring Quarter but they have the option of taking it in September, if necessary.

Terms Offered: Autumn. Offered in September, before the Autumn Quarter.

#### DIGS 30001. Introduction to Computer Programming. 100 Units.

This course provides an introduction to computer programming and computational concepts using the Python programming language. It is a prerequisite for the other Digital Studies core courses (students who are already experts in Python may request an exemption from taking this course, subject to the approval of the Director of Digital Studies). The Spring Quarter version of this course is open to all undergraduate and graduate students; however, students doing the undergraduate Minor or the joint BA/MA in Digital Studies are given priority in enrollment. An equivalent but accelerated course (DIGS 30000) is offered in September for incoming students in the one-year Digital Studies MA program.

Terms Offered: Spring Summer. DIGS 20001/30001 is offered every Spring Quarter as a full-length course and in Summer as an intensive three-week course in the September term.

Equivalent Course(s): DIGS 20001

#### DIGS 30002. Data Analysis for the Humanities I. 100 Units.

This course provides an introduction to statistics and computational data analysis with emphasis on linguistic, cultural, and historical data. Programming exercises in Python will help students build on what they learned in DIGS 20001/30000/30001. Digital Studies MA students who have taken the University of Chicago course STAT 22000 or an equivalent statistics course may request an exemption from taking this course, subject to the approval of the Director of Digital Studies. Terms Offered: Autumn

Prerequisite(s): DIGS 20001/30000/30001, "Introduction to Computer Programming" (or equivalent expertise in Python) Equivalent Course(s): DIGS 20002

#### DIGS 30003. Data Management for the Humanities. 100 Units.

This course introduces concepts and techniques related to the representation and management of digital data, with emphasis on the forms of data encountered in linguistic, cultural, and historical research. Topics covered include: (1) digital text encoding using the Unicode and XML standards, with attention to the TEI-XML tagging scheme of the Text Encoding Initiative; (2) digital typefaces ("fonts") for displaying encoded characters; (3) digital encoding of 2D images, 3D models, sound, and video; (4) database models and querying languages, both relational and non-relational, with attention to methods for integrating and querying semi-structured and heterogeneous data; (5) ontologies, the Semantic Web, and related technical standards; and (6) cartographic concepts (e.g., coordinate systems and map projections) and the basics of geospatial data management using Geographic Information Systems.

Terms Offered: Autumn

Prerequisite(s): DIGS 20001/30000/30001, "Introduction to Computer Programming" (or an equivalent course in computer programming)

Equivalent Course(s): DIGS 20003

## DIGS 30004. Data Analysis for the Humanities II. 100 Units.

This course builds on DIGS 20002/30002, "Data Analysis for the Humanities I," by introducing students to the R language and R packages for data analysis. Topics covered include data mining, data visualization, and high-performance computing techniques for analyzing large datasets. This course provides a high-level conceptual introduction to machine learning, social network analysis, and spatial data analysis. The goal is to make students familiar with these methods and aware of their role in linguistic, cultural, and historical studies, as a basis for further study of these methods.

Terms Offered: Winter

Prerequisite(s): DIGS 20001/30000/30001, "Introduction to Computer Programming" (or an equivalent course in computer programming) and DIGS 20002/30002, "Data Analysis for the Humanities I" (or an equivalent statistics course) Equivalent Course(s): DIGS 20004

## DIGS 30005. Data Publication for the Humanities. 100 Units.

This course introduces software techniques and tools for building Web browser apps written in HTML5, CSS, and JavaScript with emphasis on user interfaces for presenting information to researchers and students in the humanities. Topics covered include: (1) the use of application programming interfaces (APIs) to integrate into Web apps the various analysis, visualization, and database services provided by external systems; (2) the transformation of data into formats appropriate for publication on the Web; and (3) the use of persistent identifiers for reliable citation of published data and the problems of archiving and preserving scholarly data.

Terms Offered: Winter

Prerequisite(s): DIGS 20001/30000/30001, "Introduction to Computer Programming" (or an equivalent course in computer programming)

Equivalent Course(s): DIGS 20005

#### DIGS 30006. Natural Language Processing. 100 Units.

This course introduces software techniques and tools for natural language processing (NLP) using Python. Topics covered include a review of character-string processing and NLP methods for part-of-speech tagging, lemmatization, morphological segmentation, sentence splitting, named entity recognition, co-reference resolution, sentiment analysis, and topic modeling. This course also provides a high-level conceptual overview of recent work in machine translation via neural networks and deep learning.

Terms Offered: Spring

Prerequisite(s): DIGS 20001/30000/30001, "Introduction to Computer Programming" (or equivalent expertise in Python) and DIGS 20002/30002, "Data Analysis for the Humanities I" (or an equivalent statistics course) Equivalent Course(s): DIGS 20006

#### DIGS 30007. Introduction to Digital Humanities. 100 Units.

This course is a discussion-oriented seminar that introduces students to theoretical debates in digital humanities, broadly defined, with attention to underlying philosophical issues. It touches upon the history and theory of digital computing within its social and institutional settings, as well as the history of the application of digital computing to texts, images, sound, geospatial data, and other information relevant to cultural and historical studies. Among other topics, this course introduces students to debates about the cultural impact of digital media and about ethical issues related to the ownership, accessibility, and legitimate uses of digital data.

Terms Offered: Autumn

Prerequisite(s): DIGS 20001/30000/30001, "Introduction to Computer Programming" (or an equivalent course in computer programming)

Equivalent Course(s): DIGS 20007

#### DIGS 30008. Thesis Preparation. 000 Units.

Digital Studies MA and BA/MA students will enroll in this non-credit course in the Spring Quarter, when they begin work on their MA thesis projects in consultation with a faculty adviser and with staff members who will provide technical advice, as needed. The thesis must have a software component as well as a written component in which the student explains the computational aspects of the project and reflects critically on the methods being used, with attention to current debates in digital humanities.

Terms Offered: Spring

#### DIGS 30011. Introduction to Digital History I. 100 Units.

What is digital history and how do we do it? This lab-based experimental class will devote two sessions each week to questions of theory and methodology, considering what digital approaches can offer to the field of history; we will also examine and critique recent work by historians engaging with digital methods. In the third meeting of the week, a mandatory Friday lab session, students will learn the basics of digital mapping, network analysis, text mining, and visualization. (No prior technical knowledge is needed or expected.) By the end of the quarter, students will be asked to reflect on the advantages and limits of digital approaches in the historical field and to develop a proposal for a digital project of their own. Students who wish to see this work to fruition are invited to enroll in "Introduction to Digital History II," which will offer students more advanced technical training and will coach them toward completion of their projects.

Instructor(s): F. Hillis Terms Offered: Autumn

Note(s): Making History courses forgo traditional paper assignments for innovative projects that develop new skills with professional applications in the working world. Open to students at all levels, but especially recommended for 3rd- and 4thyr students.

Equivalent Course(s): DIGS 20011, HIST 39530, HIST 29530

#### DIGS 30012. Introduction to Digital History II. 100 Units.

This course focuses on advanced research design and methods in digital history for students who have completed "Introduction to Digital History I." The course will culminate in a public exhibition of student projects. Instructor(s): F. Hillis Terms Offered: Winter

Prerequisite(s): HIST 29530, HIST 39530, DIGS 20011, or DIGS 30011.

Note(s): Making History courses forgo traditional paper assignments for innovative projects that develop new skills with professional applications in the working world. Open to students at all levels, but especially recommended for 3rd- and 4thyr students.

Equivalent Course(s): DIGS 20012, HIST 29531, HIST 39521

#### DIGS 30013. Computational Linguistics. 100 Units.

This course introduces the problems of computational linguistics and the techniques used to deal with them, focusing primarily on probabilistic models and techniques. Topics are drawn primarily from phonology, morphology, and syntax. Special topics include automatic learning of grammatical structure and the treatment of languages other than English. Instructor(s): J. Goldsmith Terms Offered: Spring

Prerequisite(s): CMSC 12200, 15200 or 16200, or by consent

Equivalent Course(s): CMSC 35050, LING 38600

#### DIGS 30014. Digital Approaches to Text Analysis: opening new paths for textual scholarship. 100 Units.

The purpose of this course is to introduce students of literature, and more generally the humanities, to digital humanities methodologies for the study of text. Among the various digital approaches which will be introduced in class are concordances (retrieving occurrences of words), semantic similarity detection (finding similar passages across texts), sentiment analysis, stylometry (analysis of literary style), and topic modeling (automatic classification of texts). The course will highlight how these approaches to text can provide new avenues of research, such as tracing intellectual influence over the longue durée, or uncovering the distinguishing stylistic features of an author, work, or literary movement. Students need no prior knowledge of such methods, and the course will aim at providing the basics of computer programming in Python to give students the necessary tooling to conduct a digital humanities project. The source material for the course will be drawn from literary sources, and students will be free (and encouraged) to use texts which are relevant to their own research interests. Students will need to bring a laptop to class.

Instructor(s): C. Gladstone Terms Offered: Winter Equivalent Course(s): RLLT 24500, RLLT 34500

# DIGS 30015. Musical Robotics. 100 Units.

Musical Robotics is a skills and discussion-based class for students interested in learning analog and digital electronics to build robotic musical instruments or sound art installations. Discussions will be organized around readings related to art and technology with a special focus on sound-based works. Students will learn to program Arduinos to control DC motors, solenoids, and servos with music applications like Logic Pro and Max/MSP. As a final project students will present a new instrument they've created or plans for an art installation featuring a kinetic sculpture element.

Instructor(s): Bryan Jacobs Terms Offered: Autumn

Prerequisite(s): For this advanced course, a background in low-level, functional, or graphical (Max/MSP, PD) computer programming is assumed. It is also assumed that students have done some work to develop musical ideas or worked towards developing an aesthetic perspective.

Equivalent Course(s): MAAD 26720, MUSI 36620, DIGS 20015, MUSI 26720

#### DIGS 30016. Data: History and Literature. 100 Units.

Data is a notion that seems to characterize our contemporary world. Digital revolutions, artificial intelligence, and new forms of management and governance all claim to be data-driven. This course traces the origins of these trends to the nineteenth century, when new statistical knowledges and literary traditions emerged. Moving across disciplinary boundaries, we will analyze the ways in which practices of observation and calculation produced data on populations, crime, and economies. Likewise, the literature of this period reflected the ways that data shaped subjective experience and cultural life: the rise of the detective novel transformed the world into a set of signs and data points to interpret, while Balzac's Human Comedy classified individuals into types. Drawing on these historical and humanistic perspectives, students will have the opportunity to measure and analyze their own lives in terms of data-as well as think critically about the effects of these knowledge practices.

Instructor(s): Alexander Campolo, Anastasia Klimchynskya Terms Offered: Autumn

Note(s): undergrads permitted with permission of instructors

Equivalent Course(s): ENGL 32011, SOCI 30518, SOCI 20518, KNOW 32011, STAT 36711, SCTH 32011, HIPS 22011, CHSS 32011, PPHA 32011, KNOW 22011

#### DIGS 49900. Reading and Research. 100 Units.

Reading and Research

Instructor(s): David Schloen Terms Offered: Spring



# Master of Arts Program in the Humanities

#### Director

Hilary Strang, Senior Lecturer, Humanities and Affiliate Faculty, Department of English, Center for the Study of Gender and Sexuality

#### Overview

The Master of Arts Program in the Humanities (MAPH) is an intensive one-year interdisciplinary program leading to the A.M. degree. MAPH is designed to address the diverse needs and interests of intellectual generalists and specialists who may benefit from a year of intensive work in the humanities. Many MAPH students are recent college graduates. Others are professionals at mid-career, freelance writers, or performers. They hold undergraduate degrees from public and private institutions throughout the world in disciplines ranging from biology to English to marketing. Others come with extensive experience in non-academic fields, including independent film-making, politics, science, non-profit work, and business.

Many students in MAPH plan to continue their studies at the doctoral level in preparation for a career in teaching and research. For these students, MAPH provides an ideal setting for clarifying their academic and professional goals and offers a year of intensive preparation for competitive Ph.D. programs.

MAPH's emphasis on critical writing, analytical thinking, scholarly research, and flexible cultural perspectives is invaluable for students interested in careers at cultural institutions, in publishing, journalism, business, politics, secondary and community college teaching, or the full spectrum of the nonprofit sector.

#### Degree Requirements

Requirements for the degree include:

- The fall quarter MAPH Core Course, Foundations of Interpretive Theory (known to MAPH students as "Core"). Core begins two weeks before regular University classes and covers seminal works by thinkers such as Freud, Lacan, and Marx. It is taught by the MAPH Director and may include guest lectures by distinguished faculty members from different disciplines. The course is designed to give MAPH students a shared base for their further study.
- Seven elective courses chosen from the Division of the Humanities, Social Sciences, or the other divisions and
  professional schools. The choice of these courses is left largely to the student, although a program of study will be
  designed in consultation with and approved by the student's preceptor and other faculty advisers. Some students
  concentrate their courses in one field of study; others take a wide-ranging variety of courses in multiple disciplines.
  Most programs of study fall somewhere in between these two extremes.
- A master's thesis of 25 to 35 pages, produced under the supervision of a faculty thesis adviser and a preceptor, and
  completed toward the end of the spring quarter. In conjunction with thesis preparation, students take a thesis workshop,
  which involves small group meetings focused on the development of thesis topics and the writing of the thesis. MAPH
  thesis projects range from traditional research papers to creative works accompanied by a critical assessment. With
  good reason, students can instead take eight courses and complete an additional assignment rather than writing a thesis.

#### Two-Year Language Option

MAPH offers students the option to intensively study language over the course of two academic years and three summers through the Two-Year Language Option (TLO). TLO students complete the traditional MAPH curriculum during their first academic year, but must also take one language course at the intermediate or advanced level each quarter. During the second year, students take nine courses, six of which must be continued language study. Students have the option to take courses through the Summer Language Institute or to study abroad for three summers -- the summer before the program begins, the summer between the first and second academic year, and the summer following the second academic year.

#### Preceptors

Preceptors are post-doctoral instructors or doctoral candidates who oversee the progress of 10-12 MAPH students. Each student is assigned a preceptor for the academic year. In addition to serving as a general adviser, the preceptor leads small discussion groups in connection with the Core course and leads the winter and spring thesis workshops. Preceptors also teach courses in the winter and spring quarters specially designed for MAPH students.

#### Admission

Applicants to MAPH must meet the general divisional requirements for admission and must submit a critical writing sample of no more than 15 pages. Students applying to the MAPH Creative Writing Option must also submit a substantial creative writing sample in their chosen genre (e.g., several poems, a short story, a chapter from a work of longer fiction in progress, a play, or a 10-15 page work of creative nonfiction).

#### Information on how to apply

The application process for admission and financial aid for all graduate programs in the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines, and department specific information is available online at: http://humanities.uchicago.edu/students/admissions.

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Current minimum scores, etc., are provided with the application. For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu, or call them at (773) 702-7752.

#### Contact Information

maph.uchicago.edu (http://maph.uchicago.edu/) ma-humanities@uchicago.edu (773) 834-1201

# MAPH Courses

#### MAPH 30100. Foundations of Interpretive Theory. 100 Units.

The MAPH Core Course, Foundations of Interpretive Theory, begins two weeks before regular University classes and covers seminal works by thinkers such as Freud, Lacan, and Marx. It is taught by the MAPH Director and Deputy Director and may include guest lectures by distinguished faculty members from different disciplines. The course is designed to give MAPH students a shared base for their further study.

Equivalent Course(s): ENGL 34100

# MAPH 30200. Thesis Writing Workshop A. 000 Units.

MAPH students begin work on their MA thesis. Terms Offered: Autumn Spring Summer Winter

#### MAPH 30400. Thesis Writing Workshop B. 100 Units.

MAPH students complete their MA thesis. Terms Offered: Autumn Spring Summer Winter

#### MAPH 39900. Independent Study: MAPH. 100 Units.

Independent reading and research course; regular meetings with a faculty supervisor required.

#### MAPH 30300. Prep of M.A. Thesis: MAPH. 100 Units.

Preparation of MA thesis is a course only offered if a student has a special research component related to the thesis. It is very rarely used and there is no standing course description because it will vary with the student.

#### MAPH 34800. Poetics. 100 Units.

In this course, we will study poetry 'in the abstract'. We will study various efforts on the part of philosophers, literary critics, and poets themselves to formulate theories of poetic discourse. We will examine a range of historical attempts to conceptualize poetry as a particular kind of language practice, from German Romanticism to ecopoetics and beyond. (18th/19th, 20th/21st)

Instructor(s): John Wilkinson Terms Offered: Autumn Equivalent Course(s): ENGL 34800

#### MAPH 31414. MAPH Core Course: Contemporary Analytic Philosophy. 100 Units.

This course is designed to provide MAPH students with an introduction to some recent and ongoing debates between philosophers working in the analytic tradition. The course is, however, neither a history nor an overview of analytic philosophy. Instead, we will focus on three different debates, spending about three weeks on each, with topics selected from the general areas of epistemology, metaphysics, and ethics.

Instructor(s): M. Kremer Terms Offered: Autumn

Prerequisite(s): This course is open only to MAPH students. MAPH students who wish to apply to Ph.D. programs in philosophy are strongly urged to take this course.

Note(s): The course will be run as a mixture of lecture and discussion. All students should come to class having done the assigned reading and prepared to engage in a productive discussion. Students will write three short papers (6-8 pages) and provide discussion prompts on the Canvas site for the course.

Equivalent Course(s): PHIL 31414

#### MAPS 31507. Critical Approaches to Labor Migration in the Informal Economy. 100 Units.

In this course, we will understand the importance of labor migration in the context of an informal economy. Instructor(s): Amit Anshumali Terms Offered: Winter

# MAPS 31760. Conceptual Tools for Quantitative Research. 100 Units.

The main purpose for designing this course is to provide instruction on core principles of quantitative research methodology in the social sciences. This course will equip graduate students with the conceptual tools of quantitative research that form the foundation for data management, data analysis and inference. We will examine a series of topics related to measurement, sampling, hypothesis development, data structure and model interpretation which scholars would encounter when designing any project that uses quantitative data for empirical research. My main target audience is graduate students enrolled in the Masters Program in Social Sciences who will be using quantitative research techniques for their MS thesis project. Students enrolled in this course are expected to have taken at least one upper-level undergraduate course in multiple linear regression analysis. Students who are not planning to use quantitative methods in the future can also enroll in this course to develop proficiency in reading research publications and scholarly reports that use quantitative tools. Instructor(s): Amit Anshumali Terms Offered: Spring

Equivalent Course(s): SOSC 26010, SOCI 30320

# MAPH 32840. Knowing the Good. 100 Units.

In this class we'll think about a family of problems that arise concerning moral knowledge. What is the nature of the connection - if indeed there is one - between knowing what you ought to do and actually doing it? Is moral knowledge sufficient, or necessary, for virtue? Was Socrates right to think that weakness of will ('akrasia') is impossible? How is moral knowledge acquired, and how can it be passed on between people? Are there such things as moral experts, and if so, should we defer to their judgments concerning what we ought to do? To support our thought about these topics, we'll read a range of texts from throughout the history of philosophy, beginning with Plato and continuing to authors from the present day. Instructor(s): Claire Kirwin Terms Offered: Spring

Equivalent Course(s): PHIL 32840, PHIL 22840

# MAPH 33000. Methods and Issues in Cinema Studies. 100 Units.

This course offers an introduction to ways of reading, writing on, and teaching film. The focus of discussion will range from methods of close analysis and basic concepts of film form, technique and style; through industrial/critical categories of genre and authorship (studios, stars, directors); through aspects of the cinema as a social institution, psycho-sexual apparatus and cultural practice; to the relationship between filmic texts and the historical horizon of production and reception. Films discussed will include works by Griffith, Lang, Hitchcock, Deren, Godard.

Instructor(s): S.Skvirsky Terms Offered: Autumn

Equivalent Course(s): ENGL 48000, CMST 40000, ARTH 39900

# MAPH 33600. History of International Cinema I: Silent Era. 100 Units.

This course provides a survey of the history of cinema from its emergence in the mid-1890s to the transition to sound in the late 1920s. We will examine the cinema as a set of aesthetic, social, technological, national, cultural, and industrial practices as they were exercised and developed during this 30-year span. Especially important for our examination will be the exchange of film techniques, practices, and cultures in an international context. We will also pursue questions related to the historiography of the cinema, and examine early attempts to theorize and account for the cinema as an artistic and social phenomenon.

Instructor(s): A. Field Terms Offered: Autumn

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): For students majoring in Cinema and Media Studies, the entire History of International Cinema three-course sequence must be taken.

Equivalent Course(s): MAAD 18500, CMLT 32400, CMST 48500, CMST 28500, ENGL 29300, ARTH 38500, ARTH 28500, CMLT 22400, ARTV 20002, ENGL 48700

# MAPH 33700. History of International Cinema II: Sound Era to 1960. 100 Units.

The center of this course is film style, from the classical scene breakdown to the introduction of deep focus, stylistic experimentation, and technical innovation (sound, wide screen, location shooting). The development of a film culture is also discussed. Texts include Thompson and Bordwell's Film History: An Introduction; and works by Bazin, Belton, Sitney, and Godard. Screenings include films by Hitchcock, Welles, Rossellini, Bresson, Ozu, Antonioni, and Renoir. Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): CMST 28500/48500 strongly recommended

Equivalent Course(s): MAAD 18600, CMLT 32500, CMLT 22500, ARTH 28600, ARTV 20003, ENGL 48900, ENGL 29600, CMST 28600, REES 45005, CMST 48600, ARTH 38600, REES 25005

#### MAPH 34516. 1990s Videogame History. 100 Units.

In this course, we will be turning to the 1990s to learn about videogame history and historiography. Focusing on this period will allow us to examine the videogame medium within broader historial and cultural contexts, and to explore issues related to doing recent and contemporary cultural history. What was the relationship between technological innovations and stylistic changes in the videogame medium? How did the entry of new corporate and creative players into the business affect industrial structures and strategies? What do we make of 'freedom,' 'realism,' and other concepts that dominated videogame press coverage - and how were they connected to broader cultural discourses? How did understandings of what it meant to play videogames and the types of experiences that videogame medium and other media - from film and fiction to virtual reality and the Internet? How has this decade been remembered, conceptualized, preserved, and repackaged in subsequent decades? How do we go about doing history of a still-young medium, operating in multiple national and cultural contexts, and focused on such a recent decade? This course will take advantage of the University of Chicago's videogame collection and the Media Arts, Data, and Design Center's hardware collection to provide as comprehensive a view as possible of the videogame medium in this period.

Instructor(s): Chris Carloy Terms Offered: Spring Equivalent Course(s): CMST 27867, CMST 37867, MAAD 25416

#### MAPH 36500. Advanced Theories of Gender and Sexuality. 100 Units.

Beginning with the breakup of the New Left and the proliferation of 'new social movements' such as feminism, Black Power, and gay liberation, this seminar explores the key debates around which gender and sexuality were articulated as politically significant categories. How did feminist and queer politics come to be scripted increasingly in terms of identity and its negation? To what extent has a juridical and state-centered conception of politics come to displace quotidian practices of freedom and world-building? What are the limits to rights-oriented political movements? What are the political implications of the recent ontological turn to affect in feminist and queer theory?

Instructor(s): Linda Zerilli Terms Offered: Winter

Note(s): Undergraduates by consent only.

Equivalent Course(s): PLSC 21410, PLSC 31410, ENGL 30201, ENGL 21401, GNSE 31400, GNSE 21400

#### MAPH 40130. Gender, Capital, and Desire: Jane Austen and Critical Interpretation. 100 Units.

Today, Jane Austen is one of the most famous (perhaps the most famous), most widely read, and most beloved of eighteenthand nineteenth-century British novelists. In the two hundred years since her authorial career, her novels have spawned countless imitations, homages, parodies, films, and miniseries - not to mention a thriving 'Janeite' fan culture. For just as long, her novels have been the objects of sustained attention by literary critics, theorists, and historians. This course will offer an in-depth examination of Austen, her literary corpus, and her cultural reception as well as a graduate-level introduction to several important schools of critical and theoretical methodology. We will read all six of Austen's completed novels in addition to criticism spanning feminism, historicism, Marxism, queer studies, postcolonialism, and psychoanalysis. Readings may include Shoshana Felman, Frances Ferguson, William Galperin, Deidre Lynch, D.A. Miller, Edward Said, Eve Sedgwick, and Raymond Williams.

Instructor(s): Tristan Schweiger Terms Offered: Autumn

Equivalent Course(s): GNSE 41303, GNSE 21303, ENGL 21360, ENGL 41360

#### MAPH 40140. Lyric Intimacies in the Renaissance. 100 Units.

This course will examine how writers in the Atlantic and Mediterranean world used lyric verse as a tool for establishing, imagining or faking intimacy-with potential lovers, employers, friends, and God. Poetry has often been perceived as a peculiarly intimate medium, tasked with providing access to a person's inner experience: we'll examine how Renaissance poets created the experience of lyric nearness and track the social functions the poetry of intimacy served. The course will feature British authors such as William Shakespeare, John Donne and Katherine Philips in conversation with Petrarch's transformational sonnets, verse in the Islamic poetic tradition by Hafez and 'A'ishah al-Ba'uniyyah, and the work of writers in the Americas such as Sor Juana Inez de la Cruz and Anne Bradstreet. Along the way, we will explore some of the following questions: what was the gender politics of Renaissance lyric? How did writers make space for queer or heteronormative writing and attachment within the conventions of the love poem? What looks familiar about the forms of intimacy we find in these texts? What remains profoundly strange about them?

Instructor(s): Sarah Kunjummen Terms Offered: Winter

Equivalent Course(s): GNSE 44440, ENGL 40140, ENGL 22140, GNSE 24440

#### MAPH 41300. Our biopolitics, ourselves: feminist science fiction. 100 Units.

1970s feminist theory made a significant conceptual move in provisionally bracketing off biological sex from the historical/ cultural work of gender. Feminist science fiction (in contrast), in its brief flourishing in the 70s and early 80s, finds its utopian moments in the biological, in genetic manipulation, reproductive technology, ecological forms of being and new bodies of a variety of kinds. This class will read science fiction, feminist theory and current critical work that concerns itself with biopolitics in order to ask questions about the divide between nature and culture, what's entailed in imagining the future, what gender and genre might have to do with each other, and just what science fiction is and does anyway. Authors include: Le Guin, Russ, Butler, Piercy, Haraway, Rubin, Firestone.

Instructor(s): Hilary Strang Terms Offered: Winter

Equivalent Course(s): ENGL 41310, ENGL 21310, GNSE 41300, GNSE 21310

# MAPH 41400. Futures Other Than Ours: Science Fiction and Utopia. 100 Units.

Science fiction is often mistaken for a variety of futurism, extrapolating what lies ahead. This class will consider what kind of relationship science fiction might have to the future other than prediction, anticipation, optimism or pessimism. How might science fiction enable thinking or imaging futures in modes other than those available to liberalism (progress, reproduction, generation) or neoliberalism (speculation, anticipation, investment)? This class asks how science fiction constitutes its horizons, where and how difference emerges in utopias, and what it might be to live in a future that isn't ours. Readings may include SF works by Delany, Le Guin, Russ, Butler, Robinson, Banks, Ryman, Jones; theoretical and critical readings by Bloch, Jameson, Suvin, Munoz, Murphy, and others.

Instructor(s): Hilary Strang Terms Offered: Winter

Note(s): Email the instructor directly for consent.

Equivalent Course(s): ENGL 21420, ENGL 41420

# MAPH 42002. Human Rights: Philosophical Foundations. 100 Units.

Human rights are claims of justice that hold merely in virtue of our shared humanity. In this course we will explore philosophical theories of this elementary and crucial form of justice. Among topics to be considered are the role that dignity and humanity play in grounding such rights, their relation to political and economic institutions, and the distinction between duties of justice and claims of charity or humanitarian aid. Finally we will consider the application of such theories to concrete, problematic and pressing problems, such as global poverty, torture and genocide. (A) (I) Instructor(s): B. Laurence Terms Offered: Autumn

Instructor(s): B. Laurence Terms Offered: Autumn

Equivalent Course(s): LLSO 21002, HIST 39319, INRE 31602, PHIL 31002, HMRT 31002, HIST 29319, PHIL 21002, HMRT 21002

#### MAPH 41600. American Muckrakers: The Literature of Exposé, 1900/2000. 100 Units.

This seminar examines the genre of American 'muckraking,' a form of journalism and fiction intended to expose social and economic injustices. We attend, in particular, to writers active in the years surrounding 1900, when muckraking narratives enjoyed great social influence, and then turn to the new crop of prominent muckrakers that emerged around 2000. In coining the term 'muck-rake' in a 1906 speech, President Theodore Roosevelt linked the genre's aesthetic deficiencies to a potentially dangerous political impact: Its tendency towards 'hysteric sensationalism' threatened to provoke a 'morbid and vicious public sentiment' marked by cynical apathy. Though we may not end up agreeing with Roosevelt, the seminar picks up his emphasis on the relationship between the aesthetics and politics of exposé in our examination of muckraking media. We will discuss the narrative strategies of a genre often designated as 'bad' literature, focusing, in particular, on the link between its purported aesthetic deficiencies-populism, sentimentalism, melodrama, sensationalism-and its political mission. Last but certainly not least, this seminar situates muckraking narratives in their historical contexts-what they hoped to expose, why, and what impact they ended up having. Texts in this course may include the work of: Upton Sinclair, Ida Tarbell, Jacob Riis, Ray Stannard Baker, Frank Norris, Lincoln Steffens, Barbara Ehrenreich, Eric Schlosser, Naomi Klein, Michael Moore, and Laurie Garrett.

Instructor(s): Agnes Malinowska Terms Offered: Spring Equivalent Course(s): ENGL 21644, ENGL 41644

# MAPH 40202. Postcolonial Bildungsroman. 100 Units.

In this course, we consider the novel of subject formation in the twentieth-century, with a particular emphasis on postcolonial adaptations of this form. We examine how different instances of the genre play across tropes of aesthetic education, self-making, and nation-building. Readings will likely include Conrad's Lord Jim, E.M. Forster's A Passage to India, Olive Schreiner's Story of an African Farm, and Tsitsi Dangarembga's Nervous Conditions, as well as key critical pieces by Mikhail Bakhtin, Marc Redfield, and Jed Esty, among others.

Instructor(s): Darrel Chia Terms Offered: Spring

Equivalent Course(s): ENGL 21212, ENGL 40202

#### MAPH 40150. American Literature and Photography. 100 Units.

This class considers how photographic techniques spurred new literary methods. We'll discuss how visual media impact the development of forms, methods, and genres of literature, and how pictures and novels can be read together. Students will learn how to consider the visual register in novels, and how the drive to make fiction 'real,' or 'photographic,' helps to shed light on many attendant issues - the question of evidence, the problem of reliability, the terms of objectivity. We will discuss the drive to narrate real events in photographic and literary terms, and the limits of representation. Furthermore, we will think carefully about how discourses of race and poverty are imbricated with the development of photographic technologies and methods, and how racial groups such as American Indians are invented and reinvented in the advent of the mobile camera. Primary texts include fiction by Stephen Crane, Ella Cara Deloria, and Ralph Ellison and secondary texts include works from Roland Barthes, Walter Benjamin, Judith Butler, Susan Sontag, and Gerald Vizenor.

Instructor(s): Megan Tusler Terms Offered: Spring

Note(s): Instructor consent required for undergraduates.

Equivalent Course(s): AMER 25150, ENGL 45150, AMER 40150, ENGL 26150



# Master of Arts in Middle Eastern Studies - Humanities

#### Director

A. Holly Shissler

Deputy Director

Orit Bashkin

Deputy Director for Academic Programs

Paul E. Walker

Associate Director

Thomas E.R. Maguire

Project Assistant

- Benjamin Chametzky
- Outreach Coordinator and Director of the Middle East Education Initiative
- Krishna Kulkarni

The Middle Eastern Studies faculty are listed at http://cmes.uchicago.edu/.

The Center for Middle Eastern Studies offers an interdisciplinary Master of Arts program designed for students who wish to use their knowledge of the Middle East in carcers other than university teaching and research. The program is also suitable for students considering an academic career who have not had the appropriate academic background for direct entrance into a doctoral program. Language and area studies preparation may be supplemented by relevant course work in a professional school or department. Students may be admitted to the Master of Arts program in either the Division of the Social Sciences or the Humanities and will receive the degree from the division through which they have registered. Students with significant previous training in Middle Eastern or Islamic studies who wish to earn a doctoral degree leading to careers in research and college or university teaching should apply for admission directly to one of the graduate doctoral departments or committees of the University.

There are two tracks—modern and ancient—for the MA program in Middle Eastern Studies. The modern program covers the time period from the rise of Islam until the present. The ancient track, offered in collaboration with the faculty of the Department of Near Eastern Languages and Civilizations, focuses on the cultures and languages of the ancient Near East. The application process, degree requirements, and the rules and conditions for financial aid are similar for both programs.

#### Admission

Applicants for the Master of Arts in Middle Eastern Studies are expected to meet the graduate admission requirements of the University and of the division to which they apply. In addition, applicants to the Middle Eastern Studies program must submit an academic writing sample. Foreign students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Students must enter the program in the autumn quarter. Although the program is designed for full time students, applications from those who can attend only on a part time basis will be considered.

#### How to Apply Through the Division of Humanities

The application process for admission and financial aid for all Humanities graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online (http://humanities.uchicago.edu/students/admissions/apply-now/).

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

#### Program requirements

The requirements are satisfactory completion of:

- Six quarters of a Middle Eastern (ancient or modern) language (through at least two year proficiency);
- One quarter core colloquium: Approaches to the Study of the Middle East, or Approaches to the Study of the Ancient Near East;
- For the modern track, three quarters of an approved integrated Middle Eastern survey course; for the ancient track, three survey courses in the History, Archaeology and Cultures of the Ancient Near East (see below under "Core Courses");
- Seven courses in relevant electives;

- One course in thesis preparation, or reading and research;
- A master's thesis.

Only courses taken for a quality grade count toward fulfilling the requirements. No P or R grades will be accepted.

Elective courses may concentrate on one area or explore several of the fields of ancient or modern Middle Eastern studies such as, for example, Archaeology, Cuneiform Studies, Egyptology, Semitic linguistics, Arabic, Persian or Turkish literature, as well as related disciplines such as Art History, Anthropology, Classics, History, Linguistics, Political Science and Sociology.

# LANGUAGE

Placement interviews will be given so that entering students may register for courses at the appropriate level of instruction. The languages offered include: Akkadian, Arabic, Armenian, Egyptian (Ancient), Hebrew (classical and modern), Hittite, Persian, Sumerian, Turkish, and Uzbek.

#### CORE COURSES

For the modern track MA, all students are required to take the core colloquium Approaches to the Study of Middle East (CMES 30001). Students must enroll in one of the following three quarter sequences: Islamic History & Society (NEHC 31000, 31100, 31200/HIST 35704, 35804, 35904), or Islamic Thought & Literature (NEHC 30601, 30602, 30603/ SOSC 22000, 22100, 2220). For the ancient track MA, students are required to take the core colloquium Approaches to the Study of the Ancient Near East and must enroll in at least three survey courses in the History, Archaeology and Cultures of the Ancient Near East, covering at least three different geographic areas (Egypt and Nubia; Mesopotamia; Anatolia; the Levant; Iran; etc.). Relevant courses are listed on the website of the department of Near Eastern Languages and Civilizations (https:// nelc.uchicago.edu/courses (https://nelc.uchicago.edu/courses)) at the beginning of each academic year. These courses should be chosen in consultation with the Graduate Advisor for the CMES Ancient Track MA.

#### MASTER'S THESIS

Students are required to submit a master's thesis that should deal with a problem relevant to the student's intended career and should give evidence of the specialized disciplinary aspects of his or her training. The student's program adviser and a faculty member with special interest in the subject of the paper will guide the research and writing of the paper and judge whether it exhibits proof of competence in the field. During the writing of the paper, the student will register for a thesis preparation or reading and research course. The thesis title will be listed on the student's transcript.



# Committee on Theater and Performance Studies

# Chair

Professors

- Philip Bohlman, Department of Music
- Thomas Christensen, Department of Music
- Martha Feldman, Department of Music
- Theaster Gates, Department of Visual Arts
- Elaine Hadley, Department of English Language & Literature
- Berthold Hoeckner, Department of Music
- Loren Kruger, Departments of English Language & Literature and Comparative Literature
- · David Levin, Departments of Germanics and Cinema & Media Studies, Senior Advisor to the Provost for the Arts
- William Pope.L, Department of Visual Arts
- Sarah Nooter, Department of Classics
- Larry Norman, Department of Romance Languages & Literatures
- Christopher Wild, Department of Germanic Studies
- Judith Zeitlin, Department of East Asian Languages & Civilizations

# Associate Professors

- Seth Brodsky, Department of Music
- Matthew Jesse Jackson, Departments of Art History and Visual Arts
- Agnes Lugo-Ortiz, Department of Romance Languages & Literatures
- Ellen MacKay, Department of English Language & Literature
- John Muse, Department of English Language & Literature, Director of Graduate Studies
- Steven Rings, Department of Music
- Rocco Rubini, Department of Romance Languages & Literatures
- Catherine Sullivan, Department of Visual Arts

# Assistant Professors

- Honey Crawford, Harper-Schmidt Fellow, Committee on TAPS
- Ariel Fox, Department of East Asian Languages & Civilizations
- Noémie Ndiaye, Department of English Language & Literature
- Tina Post, Department of English Language & Literature
- Danielle Roper, Romance Languages and Literatures, Center for the Study of Race, Politics, and Culture

Professors of Practice

 Leslie Buxbaum Danzig, Assistant Professor of Practice in Theater & Performance Studies, Director of Undergraduate Studies

# Emeritus Faculty

- Tom Gunning, Departments of Cinema & Media Studies and Art History
- Yuri Tsivian, Departments of Art History, Cinema & Media Studies, Comparative Literature, and Slavic Languages & Literatures

Instructional Professors

Kurtis Boetcher

Senior Lecturer

Heidi Coleman

Lecturers

- Devon de Mayo
- Shade Murray
- David New
- Pamela Pascoe
- Julia Rhoads, Director of Dance

Staff

- Kurtis Boetcher, Director of Design
- Ben Caracello, Technical Director
- Joyce Ciesil, Audio Manager
- Brian Maschka, Production Manager
- Neel McNeill, Managing Director
- Jenny Pinson, Props Manager
- Samantha Rausch, TAPS North Theater Manager
- Nathan R. Rohrer, Costume Shop Manager
- Tiffany Trent, Interim Director of Performance Programs
- Vicki Walden, Academic Administrator
- Ian Young, Marketing Coordinator + Graphic Designer

Website: https://arts.uchicago.edu/theater-and-performance-studies (https://arts.uchicago.edu/theater-and-performance-studies/)

#### Overview

The PhD program in Theater & Performance Studies is a joint degree program that affords students rigorous and comparative work across two disciplines. Students develop a program of study within TAPS that reflects their particular training and interests, and pursue that program together with a degree from an affiliated department: Art History (http:// arthistory.uchicago.edu/), Cinema & Media Studies (http://cms.uchicago.edu/), Classics (http://classics.uchicago.edu/), East Asian Languages & Civilizations (http://ealc.uchicago.edu/), English Language and Literature (http://english.uchicago.edu/), Germanic Studies (http://german.uchicago.edu/), Music (http://music.uchicago.edu/), or Romance Languages & Literatures (http://rll.uchicago.edu/). Students extend their curricular experience through the development of performance work and by engaging with nationally and internationally renowned artists. Students will graduate with a joint PhD in TAPS and an aligned discipline, attesting to multiple capacities and preparing them for professional possibilities within and beyond the academy.

The program consists of four main components: course work, the preparation of oral examinations, a joint PhD dissertation, and teaching. Compared to single degree programs, we expect the joint degree to involve up to an additional year of coursework.

The TAPS program option in the Master of Arts Program in the Humanities (MAPH) (http://maph.uchicago.edu/ theater-and-performance-studies-option/) offers a concentrated introduction to the comparative aspirations and rigorous expectations of TAPS at the University of Chicago. For more information about the TAPS option in the Master of Arts Program in the Humanities (MAPH), including details about admissions and aid, visit the program's website (http:// maph.uchicago.edu/).

#### The Degree of Doctor of Philosophy

Students cannot receive a stand-alone PhD in TAPS. Rather, they enter through another department and pursue their degree jointly with that other discipline. Degree requirements for the combined degree in TAPS will of necessity vary slightly from student to student in order to accommodate the requirements of the participating entry department, but every student is required to complete the following minimum requirements. Each student will take a total of 12 courses toward the TAPS degree, typically by the end of the third year. The coursework in TAPS will include:

1. Two core classes designed to provide a rigorous introduction to advanced study in the discipline: One designated to fulfill the core requirements in the history or historiography of theater and performance and one designated to fulfill the graduate core requirement in the theory of theater and performance. These courses may be fulfilled in TAPS or in partnering departments. See the TAPS Director of Graduate Studies (DGS) for a list of these courses in any given term.

2. Three TAPS-related seminars within the entry department, to be determined in consultation with the TAPS DGS.

- 3. Five courses based primarily outside the entry department, comprising:
  - Two or three courses—depending on the student's professional ambitions—with a significant practice-based component (e.g., advanced acting, directing, dramaturgy, design, choreography, etc.).
    - Two seminars, selected in consultation with the TAPS DGS that complement the student's disciplinary training.

In certain cases, in consultation with the DGS, courses inside the entry department may be allowed if the course is cross listed with TAPS.

4. A two-term qualifying paper and/or performance project, to be developed in consultation with a faculty member in TAPS and a second faculty advisor from the entry department. The paper and/or project are typically undertaken during the fall and winter quarters of the student's fourth year in two independent research courses or through the Performance Practice as Research (49700) course which may be taken prior to the fourth year.

In addition, students in TAPS will be expected to:

- Participate in the TAPS graduate workshop (https://cas.uchicago.edu/workshops/theaterperformancestudies/). The TAPS workshop brings together students and faculty to discuss work in progress as well as current research in the wider field of Theater and Performance Studies.
- Complete one internship in theater or performance practice with a professional theater, dance, or performance company, either in Chicago or with national or international partners.
- Adhere to the Foreign Language Requirement of the entry department.
- Fulfill a teaching requirement: Students will be expected to complete two quarters of TAPS-related teaching. This
  could take the form of teaching a section in the TAPS undergraduate core, or a teaching assistantship or instructorship
  for a TAPS-related course in the entry department.

#### Qualifying Examination and Dissertation Proposal

Students are expected to complete the Qualifying Exam in TAPS at the outset of the fourth year, to complete their qualifying paper or performance during that year (if they haven't already done so), and to prepare a dissertation proposal and assemble a dissertation committee by the end of the fourth year.

- The qualifying exam is an oral exam based on a reading list of 20–30 works and a brief thesis paper (5-10 pp.) summarizing key issues and concepts guiding the student's intellectual agenda. The exam provides an opportunity for the student to look back and lend coherence to his or her coursework and also to look forward to the dissertation proposal and to the longer-term project of developing a profile as a scholar, artist, or scholar-artist. The exam should be prepared and administered in consultation with a faculty member in TAPS and a second faculty advisor from the entry department. Preparation should ideally start in the spring of the third year.
- A two-term qualifying paper and/or performance project should be developed in consultation with a faculty
  member in TAPS and a second faculty advisor from the entry department, often the same two faculty members who
  have administered the qualifying exam. The paper and/or project is typically undertaken during the fall and winter
  quarters of the student's fourth year in two independent research courses or through the Performance Practice as
  Research (49700) course which may be taken prior to the fourth year.
- The dissertation proposal and dissertation committee should reflect the program's joint nature by including at least one faculty member from the Committee on TAPS. The exact structure of a student's proposal will be determined in consultation with the director of graduate studies of the entry department. Ideally, the proposal should be approximately 15-20 pages in length and should encompass three components: (1) the scholarly and artistic stakes of the project; (2) the methodologies to be employed; and (3) an outline of the planned chapters and, if appropriate, the planned creative work. The proposal should be completed and defended one quarter after the PhD exam (not counting the summer) and no later than the end of the fourth year. The dissertation should be completed no later than the end of the sixth year.

# Practical Opportunities

TAPS offers students access to a strong network of professionals throughout the area. There are many opportunities to develop administrative skills and technical training, understand the inner workings of a theater or performance company, and forge substantial contacts in the arts community. Chicago's theater and performance scene is collaborative and inclusive. UChicago faculty and students have collaborated with a variety of partners on campus as well as companies throughout the greater Chicago area, including:

About Face Theatre (http://aboutfacetheatre.com/)

Chicago Performance Lab (https://arts.uchicago.edu/theater-and-performance-studies/uchicago-performance-lab/)

Court Theatre (http://www.courttheatre.org/)

Doc Films (http://docfilms.uchicago.edu/dev/)

Every House Has a Door (http://www.everyhousehasadoor.org/)

First Floor Theater (http://www.firstfloortheater.com/)

Goodman Theater (https://www.goodmantheatre.org/)

The House Theatre (http://www.thehousetheatre.com/)

Hubbard Street Dance (http://www.hubbardstreetdance.com/)

The Hypocrites (http://www.the-hypocrites.com)

Joffrey Ballet (http://www.joffrey.org/)

Lookingglass Theatre (http://lookingglasstheatre.org/)

Lucky Plush Productions (http://luckyplush.com/)

Manual Cinema (http://manualcinema.com/)

Neo-Futurists (http://neofuturists.org/)

Second City (http://www.secondcity.com/)

Steppenwolf Theatre Company (https://www.steppenwolf.org/)

Theater Oobleck (http://www.theateroobleck.com/)

University Theater (https://arts.uchicago.edu/theater-and-performance-studies/performance-groups/university-theater/)

Victory Gardens Theater (http://victorygardens.org/)

Writers Theatre (http://www.writerstheatre.org/)

## Foreign Language Requirement

Students must adhere to the Foreign Language Requirement of the entry department.

#### Teaching Requirements

Students in a joint degree program need to meet teaching requirements of their entry department. In conjunction with that requirement and in consultation with the Directors of Graduate Studies in the entry department and TAPS, they are expected to teach two quarters of courses related to TAPS. This could take the form of teaching a section in the TAPS core, or a teaching assistantship or instructorship for a TAPS-related course in the entry department. Two annotated syllabi for courses in Theater and Performance Studies - one undergraduate, one graduate - will form part of the Ph.D. exam materials.

#### How to Apply

The application process for admission and financial aid for all graduate programs in the Division of the Humanities is administered by the Divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at http://humanities.uchicago.edu/students/admissions(http://humanities.uchicago.edu/students/admissions/). Questions about admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

#### Theater and Performance Studies Courses

#### TAPS 30040. Black Shakespeare. 100 Units.

This course explores the role played by the Shakespearean canon in the shaping of Western ideas about blackness, in processes of racial formation, and racial struggle from the early modern period to the present. Students will read Shakespearean plays portraying black characters (Othello, Titus Andronicus, The Tempest, Antony and Cleopatra) in conversation with African-American and post-colonial rewritings of those plays (by Toni Morrison, Amiri Baraka, Keith Hamilton Cobb, and Aimé Césaire, among others). (Drama, Pre-1650 ; Med/Ren)

Instructor(s): Noémie Ndiaye Terms Offered: Spring

Equivalent Course(s): ENGL 18860, CRES 18860, ENGL 38860, TAPS 20040

#### TAPS 30513. Theater of Premodern South Asia. 100 Units.

This course will cover the history and poetics of the stage play in premodern South Asia, which was, according to the eighth-century theorist V#mana, "the best among the types of literature." The play, according to many premodern critics, was uniquely capable of bringing about a profound aesthetic experience because of its integration of diverse forms of art - plot-driven narrative, poetry, acting, and music. We will read a variety of plays in translation, including works by Bh#sa, K#lid#sa, Bhavabh#ti, and Mur#ri, as well as selections from technical literature such as the Treatise on Theater (N##ya##stram). We will also watch a number of modern performances. Besides discussing individual plays, we will cover the following topics in detail: the different genres of the stage play; the theory of plot construction; the theory of aesthetic experience (rasa); the languages of the theater; the role of music, dance, and gesture; theater and ritual; and the performance tradition of K##iy###am.

#### Instructor(s): Andrew Ollett Terms Offered: Winter

Prerequisite(s): No prior knowledge of South Asian languages is required. Students who can read Sanskrit, however, are strongly encouraged to take an accompanying reading course.

Equivalent Course(s): SALC 30513, SALC 20513, TAPS 20513

#### TAPS 30710. Dramaturgy and Dramatic Criticism. 100 Units.

This course is an orientation and practicum in contemporary dramaturgy. After surveying Enlightenment treatises that occasioned Western dramaturgical practices, students will critically engage present-day writings that consider the objectives and ultimate raisons d'être for the production dramaturg. Students then undertake dramaturgical research, exploring different methodologies and creative mind-sets for four representative performance genres: period plays; new plays; operas or musicals; and installations or performance art. Special attention will be given to cultivating skills for providing constructive feedback and practicing dramaturgy as an artistic collaborator and fellow creator. The class culminates in the design and compilation of a sourcebook for actors, directors, and designers, followed by a dramaturgical presentation intended for a professional rehearsal room.

Instructor(s): D. Matson Terms Offered: Winter Note(s): Attendance at first class is mandatory. Equivalent Course(s): TAPS 20700, ENGL 20710

#### TAPS 31510. Back Room Shakespeare: Practical Tactics For Acting in a Madhouse. 100 Units.

Shakespeare's theatre was a madhouse. Losing sight of this was a bad mistake. This class will give you strong practical skills for performing in the style of those playhouses: under-rehearsed, deeply un-precious, in constant dynamic relationship with your audience. Techniques will focus on personalizing the plays, delivering them with clarity and force to a modern audience - not on 'doing it right'. Our time will be spent primarily on hands-on exercises and scenework. Materials will include the instructor's books, My Life with the Shakespeare Cult & Blueprints for a Shakespeare Cult. Course concludes with the presentation of a play for an invited audience. Some on-stage experience recommended. No prior experience with Shakespeare necessary. Chips on shoulders about Shakespeare are welcome and helpful.

Instructor(s): S. Taylor Terms Offered: Spring

Note(s): Attendance at first class session is MANDATORY.

Equivalent Course(s): TAPS 21510

# TAPS 31600. Acting Workshop. 100 Units.

This course will develop acting skills required for the professional world. The classes are based in text analysis, physical practices, action work, and scene study with one or many partners. This class will prepare you for various audition scenarios as well as adding to rehearsal room tools and techniques. Previous experience is encouraged.

Instructor(s): M. Lyons Terms Offered: Autumn

Note(s): Attendance at first class meeting is mandatory.

Equivalent Course(s): TAPS 21600

#### TAPS 31730. Movement for Actors. 100 Units.

This course will explore how an actor uses movement as a tool to communicate character, psychological perspective and style. The foundation of our movement work will center on the skills of balance, coordination, strength, flexibility, breath control and focus. Building on the skills of the actor both in terms of naturalistic character work and stylized theatrical text. Students will put the work into practice utilizing scene work and abstract gesture sequences through studying the techniques of Michael Chekov, Vsevolod Meyerhold, Anne Bogart, Complicite and Frantic Assembly.

Instructor(s): D. de Mayo Terms Offered: Winter

Note(s): Attendance at first class session is mandatory.

Equivalent Course(s): TAPS 21730

# TAPS 32312. Virtual Theaters. 100 Units.

This course probes the nature and limits of theater by exploring a range of theatrical texts from various centuries whose relation to performance is either partially or fully virtual, including philosophical dialogues, closet dramas, novel chapters in dramatic form, drama on social media, digital theater, algorithmic theater, mixed reality performance, and transmedia games. (20th/21st)

Instructor(s): John Muse Terms Offered: Winter Equivalent Course(s): ENGL 32312

#### TAPS 32318. Music and Disability Studies. 100 Units.

This course studies the ways that attitudes toward disability are constructed within a cultural sphere. From the perspective of disability studies, bodies and minds have many kinds of differences, but what is considered "disability" is determined by culture, not given by nature. Music, as well as film, literature, visual art, theatre, and so on, participate in the complex process of constructing and modulating attitudes toward disability. In this course, we will examine the interaction of disability and music in several ways: composers and performers whose creative production is shaped by bodily difference and disability; opera and film characters who embody and stage disability for our consumption; and more abstractly, music whose formal, sonic unfolding seems to engage issues of disability, even in purely instrumental art-pour-l'art works. We will read from the disability studies literature that critiques and theorizes disability themes in literature, film, and visual art, as well as musicology, music theory, and ethnomusicology literature that shows how disability themes are crucial in music. In this interdisciplinary class, students will gain a much more intimate understanding of the ways that attitudes toward abilities and bodies are constructed in art works, as well as be able to think, analyze, critique, write, and create with this understanding in mind. It is not necessary to read music notation for this course.

Instructor(s): Jennifer Iverson Terms Offered: Spring, TBD

Equivalent Course(s): MUSI 22318, MUSI 32318, TAPS 22318

#### TAPS 32700. Devising Fundamentals. 100 Units.

Devised theater is created from a multitude of sources but, importantly, not a preexisting script. Rather the 'script' (whether or not it eventually takes written form) is developed in rehearsal. This studio course engages students in methods of generating and crafting devised material, including but not limited to physical action, moment work, and verbatim text. Additionally we will focus on the generative power of 'problems' as a motor of creation, which draws from core principles of clowning. Through solo and collaborative projects, students will explore how devised theater wrestles with conventionally discrete roles in theater-making (writer, director, performer, dramaturg, and designer). Other considerations will include strategies for making disparate material cohere and more broadly, what constitutes a story. Select readings and case studies of artists working in devised theater will supplement the practice-based focus of the course.

Instructor(s): L. Danzig Terms Offered: Autumn

Equivalent Course(s): TAPS 22700

#### TAPS 33930. Fundamentals of Playwriting. 100 Units.

This workshop will explore the underlying mechanics that have made plays tick for the last 2,500 odd years, from Euripedes to Shakespeare to Büchner to Caryl Churchill, Susan Lori-Parks, and Annie Baker, etc. Students will be asked to shamelessly steal those playwrights' tricks and techniques (if they're found useful), and employ them in the creation of their own piece. Designed for playwrights at any level (beginning or advanced), the workshop's primary goals will be to develop a personal sense of what "works" on stage within the context of what's worked in the past, and to generate a one act play, start to finish.

Instructor(s): M. Maher Terms Offered: Autumn

Note(s): ATTENDANCE AT FIRST CLASS IS MANDATORY.

Equivalent Course(s): TAPS 23930

#### TAPS 33950. Latin American Women Perform. 100 Units.

This course examines the ways women from Latin America and the Caribbean wield performance art to engage their social realities and to engage questions of race, gender, and sexuality. How do women both produce and disidentify with constructs of womanhood on stage? How do they use performance to explore the ways histories of genocide, dictatorship, and imperialism shape constructs of gender? We examine the works of performance artists Congelada de Uva, Fomma, Regina Galindo, Nao Bustamante among others.

Instructor(s): D. Roper Terms Offered: Winter

Note(s): Taught in English. Basic knowledge or comprehension of Spanish is strongly recommended. Equivalent Course(s): GNSE 33950, LACS 33950, SPAN 33950

# TAPS 33980. Writing the Short, Short Play: Investigations in Micro-Drama. 100 Units.

Never in the history of western theater has brevity gotten so much attention. Festivals around the world are devoted to plays five minutes in length or less; perhaps the most revered playwright of the 20th century, Samuel Beckett, guided his career towards the writing of smaller and smaller works; Chicago's Neofuturists have profitably run their show of "thirty plays in sixty minutes" for over thirty years; Twitter accounts disseminate multiple two to three line scripts daily; and sketch comedy continues to evolve and thrive. This course will give an overview of the development of the very short play over the last one hundred and twenty years, but will primarily focus on the writing and development of same, asking students to complete - through workshop prompts - 20 to 30 scripts by end of quarter. A particular effort will be made to bring "traditional" elements of standard-length plays - character, arc, anagnorisis, pathos, backstory, etc - to these miniatures, to test and expand their assumed limitations.

Instructor(s): M. Maher Terms Offered: Spring Note(s): Attendance at first class is mandatory. Equivalent Course(s): TAPS 23980

#### TAPS 34410. Transmedia Puzzle Design & Performance. 100 Units.

This course will introduce students to the burgeoning field of immersive puzzle design. Students will develop, implement and playtest puzzles that are suited for a range of experiences: from the tabletop to the immersive, from online puzzle hunts to broad-scoped alternate reality games (ARG). Students in this course will work directly with master puzzler, Sandor Wiesz, the commissioner of The Mystery League.

Terms Offered: Autumn

Equivalent Course(s): TAPS 24410, MAAD 24410

#### TAPS 34420. Games and Performance: Live Action Role Playing Games. 100 Units.

This experimental course builds on the emerging genres of "immersive performance," "alternate reality," and "Live Action Role Playing (LARP)" to investigate the dynamics of role-playing games through case studies, gameplay, and original student design. Our focus will include the 1913 Gettysburg reunion, parlor games including Parker Brother's 1937 Jury Box, Society for Creative Anachronism in 1966, Dungeons and Dragons (both its inception in 1974 and current resurgence), Brian Wiese's Hobbit War in 1977, Mind's Eye Theater's development of World of Darkness, and Ground Zero, which began the Nordic Larp movement in 1998. We will explore role of the game master, emergent narratives, improvised community formation as well as "bleed." Previous course work in Games and Performance encouraged but not required. Instructor(s): H. Coleman Terms Offered: Spring

Equivalent Course(s): MAAD 24420, TAPS 24420

#### TAPS 34550. Evolution of Improvisation in Chicago. 100 Units.

This course traces the history of improvisation for performance, beginning with the "High Priestess" Viola Spolin's work exploring the educational and social benefits of play at Hull House through Paul Sill's development of The Compass Players in Hyde Park to include current companies including Second City, The Neo Futurists, The Annoyance, and IO. The course will include attendance at performances, student presentations, and practice-based workshops.

Instructor(s): H. Coleman Terms Offered: Spring

Equivalent Course(s): MAAD 24550, TAPS 24550

#### TAPS 34880. New Directions in Afro-Latin Performance. 100 Units.

This class engages contemporary conversations in the study of Afro-Latin performance and explores the work of emerging black performance artists across the hemisphere. Tracing performances of blackness from the Southern cone to the Caribbean, we will examine the ways blackness is wielded by the State and by black communities themselves in performance and visual art across the region. We ask: what is the relationship between race and theatricality? What work is blackness made to do in states organized around discourses of racial democracy and mestizaje? How are notions of diaspora constructed through performances of blackness? We take up these questions in our study of reggaetón, hip hop, samba, el baile de los negritos and examine the works of noted and upcoming black artists such as Victoria and Nicomedes Santa-Cruz, Carlos Martiel, Las Nietas de Nonó, and others.

Instructor(s): D. Roper Terms Offered: Spring

Prerequisite(s): Knowledge of Spanish is recommended

Note(s): While the course will be taught in English, many of the performances and at least four of the readings will be in Spanish.

Equivalent Course(s): LACS 35501, SPAN 35500

#### TAPS 35910. Racine. 100 Units.

Racine's tragedies are often considered the culminating achievement of French classicism. Most famous for his powerful reimaginings of Greek myth (Phèdre, Andromaque), his tragic universe nevertheless ranged considerably wider, from ancient Jewish queens to a contemporary Ottoman harem. We will consider the roots (from Euripides to Corneille) of his theatrical practice as well as its immense influence on future writers (from Voltaire to Proust, Beckett, and Genet). Instructor(s): L. Norman Terms Offered: Autumn

Prerequisite(s): At least one French literature course, 21700 or higher.

Note(s): Course taught in French; all work in French for students seeking FREN credit; written work may be in English for those taking course for TAPS or FNDL credit.

Equivalent Course(s): FREN 35910, FNDL 25910, FREN 25910, TAPS 28476

#### TAPS 36100. Dance Composition. 100 Units.

When does movement become text? How do bodies combine with time, space, and energy to communicate ideas? In this workshop-formatted course, we explore these questions as we study and create dance. Students develop improvisational skills by exploring the dance principles of space, time, dynamics, and the process of abstraction. Through physical exercises, discussions, and readings, students learn how to initiate and develop movement ideas. Major dance works from many styles (e.g., ballet, modern, avant-garde) are viewed and analyzed, as students develop an understanding of choreographic forms. Students also develop a proficiency in the areas of observation and constructive criticism. The course culminates with a choreographic project.

Instructor(s): J. Rhoads Terms Offered: Autumn Note(s): Attendance at first class meeting is mandatory. Equivalent Course(s): TAPS 26100

#### TAPS 36150. Dance Lab. 100 Units.

Dance Lab provides students with the dedicated space, time, and support structures to make dance and movement-based theater. The development of each student's work is complemented by discussions with student peers and guest artists, and regular meetings with a faculty advisor. The course culminates in an informal public performance. Instructor(s): J. Rhoads Terms Offered: Winter

Equivalent Course(s): TAPS 26150

#### TAPS 36215. Comedy Central 2: The Body's Genres. 100 Units.

The story of comedy from the classics on focuses on the comedic as a weapon, as play that disrupts communication, and as a scene of moral revelation. This course will take up those relations, but begins with the body. We will focus on the plastic, corporeal, affective, and psychodramatic dynamics of the comedic. So much so, in fact, that we're calling it a studio seminar: it will involve actively participating in exercises adapted from the somatic arts, contemporary dance, music, theatre and contemporary comedy and developing new ones. Recognizing that bodies are as much created by movement as engendering it, and recognizing that the comedic is a register for translating the impact of other bodies including the world's body, the course will partition "the body" into focal themes such as: scale/gesture, the vocal grotesque/irony, movement/interruption, trauma/repair, slapstick/satire, ritual/convention, spontaneity/improvisation; cognitive laughter/belly laughter. Readings will include texts by Linda Williams, Erving Goffman, J.L. Moreno, Elias Canetti, Moshe Feldenkrais, Steve Paxton, Mikhail Bakhtin, Mae West, Jerry Lewis and Fred Moten. Students will contribute their own choices to an exploration of individual performances by Buster Keaton, Louise Lasser, Eleo Pomare, Phyllis Diller, Jackie "Moms" Mabley, and Jerrod Carmichael. Instructor(s): L. Berlant, C. Sullivan Terms Offered: Autumn Equivalent Course(s): ENGL 36407, ARTV 36215

#### TAPS 36216. Imagining the Shtetl. 100 Units.

For many, Fiddler on the Roof has come to define the portrayal of Jewish life in pre-war Europe. Central to this has been an idealized vision of the market town known as "the shtetl." This course explores the construction, manipulation, and iterations of "the shtetl" across a variety of literary and visual texts, including works by the photographer Roman Vishniac, the Yiddish poet Moyshe Leyb-Halpern, the German modernist Joseph Roth, and the American novelist Jonathan Safran Foer. Reading texts by these authors and others, we will consider how ideas of Jewish "shtetl" life shift across genres and languages. We will also confront the difficult task of defining "the shtetl" as a communal space as well as interpreting how varieties of nostalgia manifest in these texts. Alongside these primary works, we will draw on critical work by Svetlana Boym, Dan Miron, and Jeffrey Shandler. All readings are in English. A section may be organized for reading sources in Yiddish. Equivalent Course(s): GRMN 36216, GRMN 26216, CMLT 36216, CMLT 26216, TAPS 26216

#### TAPS 36217. Histoire du théâtre français de la Renaissance aux Lumières. 100 Units.

Entre le XVIe et le XVIIIe siècle, le théâtre français connaît une période de remarquable effervescence. La tragédie renaît avec la Cléopâtre captive d'Étienne Jodelle (1553), la pastorale et la tragi-comédie connaissent une popularité sans précédent, la comédie est à jamais transformée par la représentation de L'école des femmes (1663), le théâtre lyrique et l'opéra-comique acquièrent leurs spécificités respectives et le drame bourgeois rencontre ses premiers succès. Ce cours d'Histoire du théâtre français de la Renaissance aux Lumières se propose d'examiner la poétique de chacun de ces genres dans le contexte des grands courants esthétiques de l'époque (humanisme, baroque et classicisme). Tout en soulignant que les pièces produites durant les trois siècles étudiés sont encore tributaires des sources antiques et médiévales, ce panorama montrera de quelle façon le génie de certains auteurs - ainsi que les querelles que suscite l'opposition morale et intellectuelle à l'art dramatique - contribue au développement d'un des spectacles les plus brillants et les plus acclamés d'Europe. Instructor(s): J. Perrier-Chartrand Terms Offered: Spring

Note(s): Taught in French.

Equivalent Course(s): FREN 36217, TAPS 26217, FREN 26217

#### TAPS 36219. Theorizing Theater Antitheatrically. 100 Units.

From its very beginnings, theater as medium and institution has been contested. The periods of its greatest blossoming coincided with its most intense criticism - and even condemnation. Enemies of the theater did not battle theater because they deemed it ineffective and inconsequential. To the contrary, they were deeply convinced of its corrupt and corruptive character. Therefore, theater's detractors were much more perspicacious about its medial nature and efficacy than its defenders. In short, antitheatrical writers articulated the better theory of theater. Moreover, much of the theorizing by its advocates took the form of apology; apologies which often accepted many of the premises of their opponents, resulting in a notion of theater theory but try to understand their complex influence on the history of this medium in the Western tradition. We will start by investigating Plato's critique of theatrical mimesis and Aristotle's riposte in his Poetics, continue with an examination of the reign of maybe the most notorious and theatrical of Roman emperors, namely Nero, then turn to the antitheatrical polemics of the Fathers of the Church. Our next stops will be in the early modern period, with Renaissance England and the France of Louis XIV., before we arrive in the 18th century and have a closer look at the antitheatrical origins of bourgeois drama

Instructor(s): Christopher Wild Terms Offered: Winter

Equivalent Course(s): GRMN 26219, TAPS 26219, GRMN 36219, CMLT 36219, CMLT 26219

#### TAPS 36250. Contemporary Dance Techniques. 100 Units.

This course is an overview of the formal practices and trends that shape dance as an evolving contemporary art form. Designed for students with minimal dance experience who want to broaden their dance knowledge and deepen their physical skills, the course draws from a range of contemporary dance techniques including modern, improvisation, Hip-Hop, choreography, and partnering techniques. Lectures, viewings, and discussion will support experiential practice components, and professional guest artists will address select topics. ATTENDANCE AT FIRST CLASS IS MANDATORY. Instructor(s): J. Rhoads Terms Offered: Winter

Equivalent Course(s): TAPS 26250

#### TAPS 36270. Histories of Chinese Dance. 100 Units.

This class is an introduction to the forms, practices, and meanings of dance in China and the diaspora from ancient times to the present day. Through readings, videos, class demonstrations, and performances, we will explore the reconstruction of court dance in early China; Central Asian dance and dancers in the medieval imagination; the development of operatic movement in the late imperial period; the introduction and transformation of concert dance in the first half of the 20th century; socialist dance and the model ballets of the Cultural Revolution; folk dance and PRC ethno-nationalist discourse; the post-reform transnational avant-garde; ballroom dancing and everyday urban street life; Han revivalism, Shen Yun, and "classical Chinese dance" in the 21st century. Across these varied materials we will ask: what do we mean when we speak of dance, and what makes a dance Chinese? All materials in English; no background required.

Instructor(s): A. Fox Terms Offered: Spring

Equivalent Course(s): EALC 23970, TAPS 26270, EALC 33970

#### TAPS 36350. Wagner's 'Ring' in Performance. 100 Units.

Offered in conjunction with Lyric Opera's production of "Siegfried", this course considers Richard Wagner's tetralogy "The Ring of the Nibelung" by examining its musical language, scenic terms, political aspirations, and production history. While we will consider "The Ring" in its entirety, we will focus on "Siegfried" complementing our readings and discussions with field-trips to rehearsals at Lyric Opera, seeking to understand the Chicago production in a broader context of stage productions prepared over the course of the past 50 years.

Instructor(s): David Levin, Steven Rings Terms Offered: Autumn

Prerequisite(s): No prerequisites

Note(s): An interest in one or more of the following is preferable: opera, musicology, German studies, theater & performance studies.

Equivalent Course(s): GRMN 39350, TAPS 26350, MUSI 35918, GRMN 29350, MUSI 25918

#### TAPS 36519. Richard Wagner's Ring of the Nibelung in Performance. 100 Units.

This seminar, open to undergraduates and beginning graduate students, serves as a critical introduction to and intensive exploration of Richard Wagner's 19th century tetralogy. In addition to critical readings (e.g., by Wagner, Adorno, Nietzsche, Badiou, Dahlhaus, et al.) and screenings of a host of productions, we will travel downtown to Lyric Opera to attend performances of the Ring cycle in David Pountney's new production. Our discussions of the Chicago production will be supplemented by conversations with members of the Lyric Opera production team, including Anthony Freud, Lyric Opera's General Director. No previous knowledge is required although a curiosity about opera, German culture, media history, and/ or theater & performance studies will be essential.

Instructor(s): David Levin Terms Offered: Spring

Equivalent Course(s): GRMN 33419, FNDL 23419, CMST 32119, GRMN 23419, TAPS 26519, CMST 22119, MUSI 32520, MUSI 24520

#### TAPS 38320. The Mind as Stage: Podcasting. 100 Units.

Audio storytelling insinuates itself into the day-to-day unlike other narrative forms. People listen to podcasts while they do the dishes, drive to work, or walk the dog. In this hands-on course, we will learn to produce a podcast from idea to final sound mix, and explore the unique opportunities that the podcast form affords the storyteller. Students will complete several short audio exercises, and one larger podcast project. The class will be held remotely, with an emphasis on remote recording techniques and what it means to document this moment using tools of non-fiction, fiction, and oral history.

Instructor(s): S. Geis Terms Offered: Autumn

Note(s): Attendance at first class session is mandatory.

Equivalent Course(s): MAAD 23820, TAPS 28320

## TAPS 38330. Oral History & Podcasting. 100 Units.

This class explores the potential of the podcast as a form of ethical artistic and social practice. Through the lens of oral history and its associated values - including prioritizing voices that are not often heard, reciprocity, complicating narratives, and the archive- we will explore ways to tell stories of people and communities in sound. Students will develop a grounding in oral history practices and ethics, as well as the skills to produce compelling oral narratives, including audio editing, recording scenes and ambient sound, and using music. During the quarter, students will have several opportunities to practice interviewing and will design their own oral history project. This class is appropriate for students with no audio experience, as well as students who have taken TAPS 28320 The Mind as Stage: Podcasting.

Instructor(s): S. Geis Terms Offered: Winter

Equivalent Course(s): MAAD 23833, TAPS 28330

# TAPS 38350. Dance & Theater in Real-Time: Performing Presence and Liveness. 100 Units.

Presence is a fundamental yet highly debated subject within numerous fields of study, complicated by questions about authenticity, identity, authority, and self-awareness. In the context of live performance, presence implies relationship to others, location, space, and time, among others. In this course, students will engage in both seminar and studio-based work to consider the phenomenology of presence within the fields of dance, theater, and performance. Coursework considers the relationship between presence and liveness, how presence is impacted by theatrical containers such as choreography, script, or structured improvisation, and the relationship of "co-presence" between audience and performer, among other topics.

Instructor(s): J. Rhoads Terms Offered: TBD Equivalent Course(s): TAPS 28350

#### TAPS 38360. Screendance: Movement and New Media. 100 Units.

This course will explore the evolving relationship between moving bodies and video technologies. From early filmmakers using dancers as test subjects, to movie musicals and contemporary dance for the camera festivals, mediatization of the body continues to challenge the ephemerality of live dance performance. This course focuses on the growing field of screendance, videodance, or dancer-on-camera, working to define this hybrid genre and to understand the collaborative roles of choreographer, director, dancer, cameraman, and video editor. This course is both a practical and scholarly approach to the genre of screendance, each component essential to a full understanding and mastery of the other. Course work will be divided between the studio and the classroom. For the studio component, students will learn basic video editing and filming techniques. For the classroom component, students will be asked to watch screendance and read a cross-section of criticism. Assignments will be both technological and choreographic (making screendance) and scholarly (written reflections and a seminar paper).

Instructor(s): L. Leopold Terms Offered: TBD

Note(s): Attendance at first class is mandatory. Equivalent Course(s): CMST 28360, TAPS 28360, MAAD 23860

#### TAPS 38421. Theater for Social Change. 100 Units.

Augusto Boal argues that theatre is "rehearsal for the revolution." Boal's Theatre of the Oppressed provides key strategies for collaboratively crafting dramatic narrative. These strategies challenge the conventional Aristotelian structure that privileges a single protagonist and subordinates other stories. Instead, Boal structures a poetics in which the "spect-actor" contributes their voice. Students will engage in devising and embodiment exercises in Image Theatre, Newspaper Theatre, Forum Theatre, and more, by interpreting texts, (e.g., religious texts, constitutional documents, or political manifestos), interrogating current events, exploring public narratives, and valuing diverse learning styles. Students will contextualize destinations for the course material according to the aesthetic and academic questions that they bring into the classroom. To consider ethical concerns surrounding participatory theatre, we will examine arts groups past and present that employ the techniques of the Theatre of the Oppressed. Readings include Boal, Freire, Jan Cohen-Cruz, Michael Rohd, bell hooks, and Knight and Schwarzman.

Instructor(s): T. Trent Terms Offered: Spring Note(s): Attendance at first class is mandatory

Equivalent Course(s): CRES 28421, TAPS 28421

#### TAPS 38479. Theater and Performance in Latin America. 100 Units.

What is performance? How has it been used in Latin America and the Caribbean? This course is an introduction to theatre and performance in Latin America and the Caribbean that will examine the intersection of performance and social life. While we will place particular emphasis on performance art, we will examine some theatrical works. We ask: how have embodied practice, theatre and visual art been used to negotiate ideologies of race, gender and sexuality? What is the role of performance in relation to systems of power? How has it negotiated dictatorship, military rule, and social memory? Ultimately, the aim of this course is to give students an overview of Latin American performance including blackface performance, indigenous performance, as well as performance and activism.

Instructor(s): D. Roper Terms Offered: Autumn

Prerequisite(s): Undergraduates must be in their third or fourth year

Note(s): Taught in English.

Equivalent Course(s): SPAN 39117, SPAN 29117, CRES 39117, LACS 29117, TAPS 28479, CRES 29117, GNSE 39117, LACS 39117, GNSE 29117

#### TAPS 38702. Italian Comic Theater. 100 Units.

A survey of the history of Italian theater from the Erudite Renaissance Comedy to Goldoni's reform. We will pay particular attention to the tradition of commedia dell'arte (scenarios, stock characters, and plot formation), ancient and medieval influences, evolution and emancipation of female characters, and the question of language. Readings include works by Plautus, Ariosto, Machiavelli, Angelo Beolco (Ruzante), Flaminio Scala, and Goldoni. Toward the end of the course we will consider the legacy of Italian Comedy in relation to the birth of grotesque and realist drama in Pirandello. Instructor(s): R. Rubini Terms Offered: Winter

Note(s): Taught in English.

Equivalent Course(s): ITAL 28702, TAPS 28702, ITAL 38702

#### TAPS 41401. Opera Film: China / Europe: Thinking Media Hybridity across Cases. 100 Units.

This seminar will explore the mutual attraction of cinema and opera across the two vast operatic cultures of Europe and China in order to interrogate the many cross-cultural issues that their media encounters produce and accentuate. Such issues include changing relations to myth, ritual, history, and politics; cross-dressing and gender-bending; closed forms or open; stock characters wand plots or narrative fluidity. We will ask why in both China and Europe, opera repeatedly became the conflicted site of nationalist and modernizing aspirations, reiterations of tradition, and attempts at avant-gardism. When the presumed realism of film meets the extravagant hyperperformativity of opera, the encounter produces some extraordinary third kinds-media hybrids. Film repeatedly wrestled with the inherent histrionics of opera through the use of such devices as close-ups, camera angles, shot reverse shot, displacement of sound from sight, acousmatic sound, and trick photography. Such devices were generally meant to suture the supposed improbabilities of the operatic art form, incongruities often based on extravagant and transcendent relationships to realism. Such cinematic renderings of opera are highly revealing of fundamental faultlines in the genres themselves and revealing of the cultures that produced them. Instructor(s): J. Zeitlin and M. Feldman Terms Offered: Winter

Equivalent Course(s): ITAL 41419, MUSI 45019, CMST 44601, EALC 41401, CDIN 41401

#### TAPS 41450. Peach Blossom Fan: Theater, History, and Politics. 100 Units.

This seminar probes the interplay of history, politics, and theatricality in Kong Shangren's Peach Blossom Fan, his dramatic masterpiece of 1699, which brilliantly depicts the fall of the Ming dynasty in 1644-1645 on multiple social, cultural, and ritual fronts, from the pleasure quarters and the imperial court to the Confucian Temple and the battlefield. Issues to be addressed include: the representation and reassessment of late Ming entertainment culture--courtesans, actors, storytellers, musicians, booksellers, painters; metatheatricality; memory and commemoration; props and material culture; the dissemination of news and (mis)information; the reenactment of the past on the stage, as we contextualize Peach Blossom Fan within the early Qing literary and theatrical world in which it was created and performed. We'll also examine the interplay of history, politics, and theatricality in the modern reception of the play by analyzing its modern and contemporary incarnations in spoken drama, feature film, and different operatic genres.

Instructor(s): J. Zeitlin Terms Offered: Winter

Note(s): Reading knowledge of modern and classical Chinese is desirable but not required. The course is open to MAPH students as well as Phd students.

Equivalent Course(s): EALC 41450

#### TAPS 41451. Palace of Lasting Life: History, Drama, Fantasy. 100 Units.

This course covers the history of Chinese theater from its emergence as a full-fledged art form in the 10th-11th centuries (the Northern Song) up through its incorporation into modern urban life and nationalist discourse in the first decades of the 20th century (the Republican period). In addition to reading selections from masterpieces of Chinese dramatic literature such as Orphan of Zhao, Romance of the Western Chamber, The Peony Pavilion, we will pay particular attention to the different types of venues, occasions, and performance practices associated with different genres of opera at different moments in time. A central theme will be the changing status of the entertainer and the cultural meanings assigned to acting. All texts to be read in English translation, but students are also encouraged to read Chinese texts in the original if feasible. Instructor(s): J. Zeitlin Terms Offered: Spring

Prerequisite(s): Good command of classical Chinese.

Equivalent Course(s): EALC 41451

# TAPS 44016. Modeling the Voice. 100 Units.

Equivalent Course(s): MUSI 44016

# TAPS 44420. Practices of Classicism in the French Seventeenth Century. 100 Units.

This seminar has two goals. One is to combine the text-based tradition of French literary studies with the image-based, comparative tradition of art history-and, in so doing, to change the taxonomies of both. The other is to re-evaluate French Classicism by attending to practices of reading, writing, performing, looking and making. The seminar's breadth is designed to appeal to all graduate students interested in the theory and history of aesthetics, and the interleaving of visual and literary evidence. Looking will be no less important than reading, as we will conduct sessions with original objects in the Art Institute and in Regenstein Special Collections. Authors studied will include Corneille, Molière, La Fontaine, Pascal, and Descartes; among the artists, Poussin, Claude Lorrain, La Tour, and Callot. Critical readings will range from Leo Spitzer to Louis Marin and Foucault. The seminar will be conducted in English; all primary texts will be made available in both English translation and, for those with reading knowledge, in the French original. This seminar will travel to Paris during exam week (March 13-21, 2020); airfare and lodging covered by university. Consent of instructors required. Instructor(s): Larry Norman and Richard Neer Terms Offered: Winter

Equivalent Course(s): ARTH 45885, FREN 34420, CMLT 44410, CDIN 44420

#### TAPS 45020. Errant Voices: Performances Beyond Measure. 100 Units.

Listening to trans\*, raced, and castrato voices, "Errant Voices: Gender and Performances beyond Measure" will explore voices that escape their confines perforce or by choice, trying to make sense of resistant, insurgent, and resilient voices. Students from various disciplines are invited to join the seminar, thereby helping to advance its themes but working from their own strengths and orientations. Our common goal will be to develop shared theoretical language among differing cases that can lead to new insights into wider paradigmatic shifts across gender and race in our historical moment. The project turns on performances inasmuch as they reveal the workings of bodies, intentions, and interactions. It depends on collective thinking because it is intersectional and thus concerns emergent shared languages developed by encountering questions collaboratively.

Instructor(s): Martha Feldman Terms Offered: Spring Equivalent Course(s): MUSI 45020, GNSE 45020

#### TAPS 45918. Wagner's 'Ring of the Nibelung' in Performance: Siegfried. 100 Units.

This course seeks to explore Richard Wagner's sprawling 19th century tetralogy The Ring of the Nibelung via the history of its interpretation on stage. While the first section of the course will offer an introduction to the Ring in its entirety, the rest of the quarter will be taken up with an in-depth consideration of Siegfried, the 3rd piece in the tetralogy. Our work in the seminar room (which will encompass a range of historical and critical readings and screenings) will be supplemented by attendance at rehearsals for Lyric Opera's production of Siegfried, slated to premiere on November 3rd. As it stands, we will cover a substantial amount of territory from a host of genres, eras, fields, and orientations, seeking to understand the contested and often contradictory place in music history and cultural theory that is occupied by Wagner and The Ring. Since the course is team-taught by a professor of music and of Germanic studies as well as theater & performance studies, our discussions will seek to encompass a range of fields, approaches, and topics. Among the topics we plan to examine are the aspiration to aesthetic totalization, the politics of community, the notion of distress or emergency (the German term is: Not), and some astonishingly lurid fantasies of family life–mostly of family dissolution. Texts will include the works of Friedrich Nietzsche, Theodor Adorno, Carolyn Abbate, Alain Badiou, Nicholas Ridout, and Slavoj Zizek.

Instructor(s): David Levin, Steven Rings Terms Offered: Autumn. Autumn 2018: Wednesdays 1:30-4:20pm in JRL 264 Prerequisite(s): Consent required: Please email Prof. Levin (dlevin@uchicago.edu) or Prof. Rings your background / experience / interest in one more of the following: music history/theory, critical theory, theater and performance studies, Germanic studies, opera studies, cinema and media studies.

Equivalent Course(s): MUSI 45918, CDIN 45918, GRMN 45918

#### TAPS 48017. Phaedras Compared: Adaptation, Gender, Tragic Form. 100 Units.

This seminar places Racine's French neoclassical tragedy Phaedra within a wide-ranging series of adaptations of the ancient myth, from its Greek and Latin sources (Euripides, Seneca, Ovid) to twentieth-century and contemporary translations and stage adaptations (Ted Hughes, Sarah Kane), read along with a series of theoretical and critical texts. Particular attention will be paid to critical paradigms and approaches in the evolving fields of classical reception studies, theater and performance studies, and gender studies. Reading knowledge of French strongly preferred.

Equivalent Course(s): FREN 48017, CMLT 48017, CLAS 48017, GNSE 48017, CDIN 48017

# TAPS 49200. Current Topics in Performance Studies. 100 Units.

An overview of performance theory through topics including: embodiment, speech act theory, performativity and subjection, memory and the archive, performance ethnography, black performance studies and performing identity. Instructor(s): D. Levin Terms Offered: Autumn

Note(s): This course is offered in alternate years.

# TAPS 49700. Performance Practice as Research. 100 Units.

Performance Practice as Research (PPR) seeks to be a laboratory for doctoral students to develop performance work as a means of research -- to pursue inquiries within and through artistic practice. Students will investigate methodologies for creating artistic works in the media of their choice, meaningful terms for critique, and how to put their artistic work into productive dialogue with their scholarship. The instructor will work with each student to customize the development process and presentation(s) of the work. Though the primary focus of the course will be on students' individual projects, there will be a seminar component consisting of readings, viewings and written assignments. This single-credit course aims to have inclass hours and a work load equivalent to a single course but will be scheduled over two quarters to give students ample time to conceive and realize their projects. The class will not meet every week each quarter and will have some flexibility in how it is organized. Please contact the instructor for further information about course content and logistics. Instructor(s): L. Danzig Terms Offered: Spring Winter

Note(s): This course is offered in alternate years.

# TAPS 49900. Reading and Research. 100 Units.

This is a reading and research course for independent study. Equivalent Course(s): TAPS 29900

#### TAPS 50300. Catharsis, Tedium, and other Aesthetic Responses. 100 Units.

This seminar examines the ramifications of catharsis, tedium and other forms of aesthetic response, in other words the relationship between effect and affect in and in response to performance, live, mediated and in reading. Beginning with Aristotle and present day responses to catharsis, we will investigate the kinds of aesthetic response invoked by theories of tragedy (esp Hegel), realism (authority, attachment and estrangement in Lukacs, Adorno, Brecht, Benjamin), as well as theories of pleasure (Barthes, Derrida, Cixous) and tedium (Heidegger). We will also explore tedium through text and audio of The Hunchback Variations by local playwright Mickle Maher. We will conclude with, the potential and limitations of catharsis as an appropriate response to testimonial narrative in text and film during and after the dictatorship in Chile. An essential part of the discussion will be the problem of translating key theoretical terms, not only from one language to another but also from one theoretical discourse to another. Instructor(s): Loren Kruger Terms Offered: Autumn

Equivalent Course(s): ENGL 50301, CMLT 50300

#### TAPS 51420. The Literary and Visual Worlds of Xixiang ji. 100 Units.

This course examines the most influential Chinese drama of all times, the Xixiang ji (Romance of the Western Chamber) in light of its multiple literary and visual traditions. Over 100 different woodblock editions, many of them illustrated, were published during the Ming and Qing dynasties alone. The focus of the class will be on close readings of the original texts in classical and early modern vernacular Chinese. We will concentrate on the earliest extant edition of 1498 and Jin Shengtan's annotated and abridged edition of 1656, along with important sets of woodblock illustrations of the play. Instructor(s): J. Zeitlin Terms Offered: Autumn

Prerequisite(s): Good reading skills in both classical and vernacular Chinese. Instructor's permission required. Equivalent Course(s): EALC 51420

#### TAPS 59400. Realism, Social Modernism: Aesthetics and Politics Between the Wars. 100 Units.

The theoretical influence of arguments in the 1920s and 1930s about the relative value of realism and modernism is well known, but the entwinement of theory with cultural production and political debates is less so. This intensive reading course will attempt to historicize theory between the world wars--or more specifically between Bolshevik and German revolutionary responses to the first war and Popular Front againt the rise of Fascism leading to the second--by revaluating the work relatively familiar theorists such as Benjamin, Lenin, and esp. Lukacs in the light of their interlocutors, in fiction, film, and drama Brecht, Gladkov, Gorki, Pudovkin, Eisenstein, Dovzhenko, Seghers, Sholokhov, Christa Wolf, Konrad Wolf, Frank Beyer and their counterparts in America, the Living Newspaper, Film and Photo League, writers for New Masses as well as in theory Bloch, Eisler, Zhdanov, Kenneth Burke, Mike Gold, John Howard Lawson, among others. Essential texts are available in English but working knowledge of German (or Russian) and/or marxist theory very helpful. Instructor(s): Loren Kruger Terms Offered: Autumn

Equivalent Course(s): CMLT 59400, CMST 67100, ENGL 59401, SCTH 59400, GRMN 43700


# Department of Art History

# Chair

• TBD

## Professors

- Darby English
- Christine Mehring
- William J. T. Mitchell
- Richard Neer
- Wu Hung

## Associate Professors

- Niall Atkinson
- Persis Berlekamp
- Claudia Brittenham
- Chelsea Foxwell
- Matthew Jesse Jackson
- Wei-Cheng Lin
- Andrei Pop
- Katherine Taylor
- Martha Ward

## Assistant Professors

- Seth Estrin
- Tamara Golan
- Megan Sullivan

## Harper Schmidt Collegiate Assistant Professor

Dario Donetti

# **Emeritus Faculty**

- Charles Cohen
- Tom Gunning
- Neil Harris
- Reinhold Heller
- Robert S. Nelson
- Linda Seidel
- Joel Snyder
- Barbara Stafford
- Yuri Tsivian

## Visiting Professors

- · Ina Blom, Department of Philosophy, Classics, History of Art, and Ideas, University of Oslo
- Jas' Elsner, Corpus Christi College, University of Oxford

The department offers a program for the study of the history of art, leading to the degree of Doctor of Philosophy. Our program distinguishes itself with a combination of global scope, object-driven research, and committed interdisciplinarity. Students pursue research spanning five continents, including Asian, European, Islamic, Latin American, and North American art, as well as the relations between these and other areas traditionally treated in isolation. Object-, material-, and site-based research and teaching are often large-scale and collaborative and include annual traveling seminars, conservation classes, as well as instruction and training at the Smart Museum and Art Institute. Interdisciplinary commitments manifest in faculty's co-teaching, cross-appointments, and involvements in other departments, centers, and initiatives across campus, in the multiple workshops faculty and students in art history sponsor and participate in, and in the coursework students are encouraged to pursue beyond art history.

# Admission

A student wishing to enter the graduate program should have a sound undergraduate education in the humanities and liberal arts, preferably but not necessarily with a major in the history of art. It is highly recommended that students have

usable skills in French, German, or other major languages relevant to the student's area of focus. More specific information about appropriate languages can be found on the department's website (https://arthistory.uchicago.edu/graduate/program/). Applicants are required to submit Graduate Record Examination (GRE) aptitude scores. Both applicants with a BA and applicants who bring an MA in Art History from another institution are welcome to apply for admission to the PhD program. The department grants MA degrees but does not have an independent MA program.

## Information on how to apply

The application process for admission and financial aid for all graduate programs in the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available on the Humanities Division website (http:// humanities.uchicago.edu/students/admissions/).

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). The minimum required TOEFL score is 104, with 26 on each subsection. The minimum IELTS is 7.0, with 7.0 on each subsection. For more information, please visit the Office of International Affairs website (https://internationalaffairs.uchicago.edu).

## The Degree of Doctor of Philosophy

The doctoral program in art history typically involves two years of coursework, the completion of a qualifying paper, preliminary exams in three fields, a dissertation prospectus, and a dissertation. Following their coursework, students also learn to teach by serving as a teaching assistant for faculty-taught undergraduate courses and taking the department's teaching colloquium. After advancing to ABD status, students research and write their dissertation, usually combining time in Chicago with traveling abroad.

Students should refer to the Graduate Student Handbook (https://wiki.uchicago.edu/display/AHH/) for details on all requirements.

#### Course Requirements

In general terms, the doctoral program requires two years of full time coursework. Students typically enroll in three courses each quarter during their first two years, and courses are selected with the guidance of the student's doctoral advisor and in consultation with the Director of Graduate Studies in the department.

All students take ARTH 40200 Art History Proseminar and ARTH 44002 COSI Objects & Materials Seminar in the Autumn and Winter Quarters, respectively, of their first year. Among the other 18 courses required for the doctoral degree are two courses each for distribution requirements and for the student's minor field. The qualifying paper, completed by the end of Winter Quarter of the second year, is researched and written within the framework of two Qualifying Paper Reading Courses typically supervised by the doctoral advisor and/or another faculty member. Finally, students enroll in a Preliminary Exam Directed Reading Course in the Spring Quarter of their second year.

All students must demonstrate competency in languages determined by their chosen field. Depending on the language and level, up to three language courses may be counted toward the total number of courses required for the degree.

Given the department's strong history of and continuing commitment to interdisciplinary inquiry and intellectual formation, the doctoral program allows for as many as 8 of the total 18 courses required for the PhD to be taken outside the Department of Art History.

In their third year, students are required to take the Teaching Colloquium and Dissertation Proposal Workshop offered yearly by an art history faculty member. These courses do not count toward the 18 courses required for the PhD. Students also prepare for and take their preliminary exams, and typically hold their first teaching assignments in their third year.

# ABD

Upon successful completion of all coursework requirements, the qualifying paper, the relevant language requirements, and the preliminary exams, each student prepares a dissertation proposal that must be approved by three committee members. Upon that approval and an administrative review of the student's file, the student formally advances to the status of "PhD Candidate" and All But Dissertation (ABD) status.

In subsequent years, students research and write the dissertation while further developing their teaching skills (in keeping with the doctoral program's teaching requirement). Following the submission and successful defense of the dissertation, the doctoral degree is conferred. The current expectation, in general terms, is that completion of the PhD in Art History requires approximately seven years, but time to degree will vary: some students may graduate in less than seven years, others may find they need an additional year.

While all doctoral students must fulfill the requirements sketched above, the different fields of art historical study that are represented in the Department of Art History each have their own particular scholarly requirements. With the aim of providing graduate students with the most rigorous formation in their chosen area of specialization, the department has made various structural provisions to ensure that students can receive the additional training required by their chosen field (including additional language study, training in specialized research skills, and curatorial formation). As these scholarly requirements vary from field to field, so too—within limits set by the Department of Art History and the Division of the Humanities—the pace of each student's progress through the doctoral program will necessarily be shaped by the requirements of his/her chosen area of study, in consultation with the art history faculty.

#### Joint and Dual PhDs

Select students may pursue joint PhD degrees with art history and another department or program. Joint PhD programs at the University of Chicago are of two types, 'standing' and 'ad hoc.'

A standing joint degree program has been established between Art History (ARTH) and the Committee on Theater and Performance Studies (TAPS). It allows students to complement their doctoral studies in Art History with a program of study in TAPS that reflects their particular training and interests, encompassing both academic and artistic work. Students apply to this standing program at the time of their application to the University, which is submitted to the art history department.

Students may petition for an ad-hoc joint PhD with another department or program according to guidelines set by the Humanities Division (https://humanities.uchicago.edu/students/manual/academic-policies/joint-degree-programs/). Generally, admitted students must separately meet the requirements of both programs, but any overlapping requirement need only be met once if each department would otherwise consider it met were that student not in the joint degree program. Recent art history students have completed joint PhDs with Cinema and Media Studies and with Social Thought.

Under a new initiative (https://fcc.uchicago.edu/page/international-dual-phd-degree-program/), some students may simultaneously pursue PhD studies at the University of Chicago and at a degree-granting institution of higher learning in France, leading to two PhD degrees – one from each of the two institutions. Students approved for this initiative pursue a specific course of study depending on their research and professional interests, must satisfy all the requirements of both doctoral programs, and must write and defend a single dissertation that meets the requirements for each degree.

## The Degree of Master of Arts

The objective of the program is the PhD degree. Doctoral students in the program are eligible to receive an MA degree after completing the following requirements: one foreign language required for the student's field; nine one-quarter courses at the University of Chicago which meet the first-year distribution requirements, including ARTH 40200 Art History Proseminar and ARTH 44002 COSI Objects & Materials Seminar; and approval of the qualifying paper from both readers.

Students seeking a master's degree should apply to the Master of Arts Program in the Humanities (MAPH), a threequarter program of interdisciplinary study in a number of areas of interest to students. Further details about the MAPH program are available on their website (https://maph.uchicago.edu/master-arts-program-humanities/).

# Courses

For more information on recently taught courses, please see the course description page of the departmental website (https://arthistory.uchicago.edu/graduate/courses/).

## Art History Courses

#### ARTH 30212. A Cultural History of Modern and Contemporary Korean Art. 100 Units.

This course explores the development of modern and contemporary art in Korea from the 20th century to today. In parallel with political, economic, and social changes that defined the nation's identity, Korean art also experienced fundamental shifts and expansion. With a particular concern for the sociopolitical landscapes around artistic productions, this course introduces the main developments and cultural trends in the arts, drawing upon a wide array of media, from traditional paintings and sculptures to more recent media such as video, performance, photography, and new media art. We will familiarize ourselves with the most crucial artists and their practices, focusing on key events that shaped the history of Korea and its art such as the Japanese colonial era, the Korean War, the national division, struggles against dictatorship, democratization, and globalization. Students will also learn how to look at, think about, and engage in critical discussion of the visual arts.

Instructor(s): Boyoung Chang Terms Offered: Autumn Equivalent Course(s): ARTH 20212

## ARTH 30304. Ancient Stones in Modern Hands. 100 Units.

Objects from classical antiquity that have survived into the modern era have enticed, inspired, and haunted those who encountered or possessed them. Collectors, in turn, have charged ancient objects with emotional, spiritual, and temporal power, enrolling them in all aspects of their lives, from questions of politics and religion to those of race and sexuality. This course explores intimate histories of private ownership of antiquities as they appear within literature, visual art, theater, aesthetics, and collecting practices. Focusing on the sensorial, material, and affective dimensions of collecting, we will survey histories of modern classicism that span from the eighteenth century to the present, from the Mediterranean to the Pacific. Historical sources will include the writings of Johann Gottfried Herder, Johann Joachim Winckelmann, Emma Hamilton, Vernon Lee, and Sigmund Freud, among others; secondary source scholarship will draw from the fields of gender studies, the history of race, art history, and the history of emotions. We will supplement our readings with occasional museum visits and film screenings. Assignments: Active participation in class, one secondary text analysis, one analysis of a controversy, and one proposal for a monument, museum, or school curriculum. Instructor(s): S. Estrin & A. Goff Terms Offered: Winter

Prerequisite(s): Prerequisite: instructor consent required. Email both instructors describing your interest in the course, how it fits into your broader studies, and any relevant background (sestrin@uchicago.edu and agoff@uchicago.edu). This is a traveling seminar that includes a 4-day trip to visit California museum collections.

Note(s): Making History courses forgo traditional paper assignments for innovative projects that develop new skills with professional applications in the working world. A team-taught and interdisciplinary course; we welcome students from all backgrounds, with no previous experience in ancient art or modern history required.

Equivalent Course(s): HIST 39422, CLAS 31019, CLCV 21019, ARTH 20304, HIST 29422

# ARTH 30603. Image and Text in Mexican Codices. 100 Units.

In most Mesoamerican languages, a single word describes the activities that we would call "writing" and "painting." This seminar will investigate the interrelationships between image and text in Central Mexico both before and immediately after the introduction of alphabetic writing in the 16th century. We will also review art historical and archaeological evidence for the social conditions of textual and artistic production in Mexico, and how these traditions were transformed under Spanish colonial rule. We will consider the materiality of text and image by working with facsimiles of Mesoamerican books in the Special Collections Research Center of the Regenstein Library. At the end of the course, students will have acquired a basic literacy in Aztec and Mixtec writing systems, and will have refined their ability to look productively and write elegantly about art.

Instructor(s): C. Brittenham Terms Offered: Spring

Equivalent Course(s): ARTH 20603, LACS 30603, KNOW 27001, KNOW 37001, LACS 20603

## ARTH 30700. Understanding the Built Environment. 100 Units.

This thematic course aims to equip students with the basic skills and knowledge required to analyze architecture and the urban environment. It provides an introduction to the methods and procedures of the architectural historian. These include such practical tasks as understanding architectural terminology, reading and interpreting architectural drawings, engaging with buildings "on site", and studying buildings in urban context, relative to surrounding buildings, street networks and public spaces. At a broader level, the course will entail critical discussion about the relationship between architecture and society, the building as a historically specific object that also changes over time, the cultural representation of architecture, and modes of perceiving/experiencing the built environment. The format is a discussion seminar based on readings, assignments, virtual visits and meetings with guest speakers. Although it is designed to introduce the fundamentals of architectural history to undergraduates seeking a minor in architectural studies, MA and PhD students in any field are also welcome to register.

Instructor(s): K. Taylor Terms Offered: Autumn

Note(s): This course will be taught entirely in remote format. Equivalent Course(s): ARCH 20000, ARTH 20700

## ARTH 31313. Video Art: The Analog Years. Theory, Technology, Practice. 100 Units.

The course gives a critical introduction to early video and television art - from the proto-televisual impulses in the historical avant-gardes to the increasing proximity between analog and digital technologies in video art in the late 1970's and early 1980's. We will focus on the various technical aspects of analog video, as well as on artistic practice and early writings on the subject. Topics will include the technics and politics of time; video, feedback systems and ecology; the reconfiguration of the artist's studio; guerilla politics and alternative TV; video and autobiography; the relation between video and painting; the musical history of video; the invention of new machines; and video as a "television viewer". Instructor(s): I. Blom Terms Offered: Autumn

Equivalent Course(s): ARTH 21313, CMST 38703, MAAD 18703, CMST 28703

# ARTH 31316. After You: Curating the Art & Algorithm Debate. 100 Units.

This course offers a unique opportunity to witness the process of - and, more importantly, actively contribute to - the conceptualization of a major exhibition of contemporary art, to be organized at the Neubauer Collegium and Smart Museum of Art in the winter and spring of 2021. The exhibition in question is titled After You: Art and Agency in the Age of Algorithms, and was conceived in dialogue with DoVA associate professor and participating artist Jason Salavon. Alluding to the specter of the post-human regime and the various challenges raised by rapid advances in digital technology in the field of artificial intelligence and machine learning in particular, After You will bring together the work of a dozen artists working at the intersection of more or less traditional modes of artistic production and their algorithmic antitheses. The primary focus of After You, and therefore also of this class, are the philosophical implications of the increased role of artificial intelligence in the creation and reception of art, in particular with regards to questions of artistic intent, authorship, and originality. We will discuss this phenomenon's short but vibrant history, meet artists, read key texts (Bostrom, Joselit, Steyerl, Zuboff), and view artworks, all the while laying the didactic groundwork for the 2021 exhibit in the process: a hands-on curatorial workshop centered on one of the defining debates of our time.

Instructor(s): Dieter Roelstraete Terms Offered: Spring

Note(s): Students must attend first class to confirm enrollment.

Equivalent Course(s): MAAD 25316, ARTH 21316

# ARTH 32106. Introduction to the Study of Iconography. 100 Units.

Equivalent Course(s): RLIT 32106, ARTH 22106, RLST 28320, HCHR 32106

# ARTH 32402. Perspective as a Challenge to Art History. 100 Units.

Equivalent Course(s): ARTH 22402, ENGL 22402, ENGL 42412, SCTH 32402

## ARTH 32611. The Politics of Luxury in the Middle Ages. 100 Units.

This course explores conspicuous consumption, the love of costly things, the lure and power of precious materials, and the important role played by the arts in the definition of status, authority, influence, and pleasure in the Middle Ages. Investigating a series of episodes from the history of medieval luxury, we will explore how precious objects participated in western gift-culture (both "sacred" and "secular"), how the patronage of works of art pursued a variety of ideological and social aims, and we will scrutinize the aesthetic and economic conceptions of value transacted via works of art and practices of "ars" (skilled labor). Not least, the course aims to interrogate how the politics of luxury contributed to changing conceptions of the status of the artwork and the artist over the course of the Middle Ages.

Instructor(s): A. Kumler Terms Offered: Autumn Equivalent Course(s): ARTH 22611, MDVL 22611

# ARTH 33602. Native American Art at The Field Museum: An Anthropological Perspective. 100 Units.

This course explores recent forays into collecting and displaying contemporary Native American Art for the Field Museum, a museum of natural history and anthropology. Through site visits and dialogues with Field Museum staff, contemporary Native American artists, and readings, the course introduces students to the potential and problematic of locating, defining, and representing contemporary art within the colonial context of the Field Museum and how collaboration with artists and community members plays a role in shifting the paradigm toward one that centers collaborative curation and is inclusive of the direct voice of artists. Students will have the opportunity to observe the major renovation currently underway of the Native North American Hall and the role that contemporary art will play in deepening understanding of existing collections and contemporary social concerns.

Instructor(s): A. Wali Terms Offered: Spring

Prerequisite(s): Students must attend first class to confirm enrollment. This course meets at the Field Museum; students should plan their course schedules to accommodate travel.

Equivalent Course(s): ARTH 23602

# ARTH 34002. Advanced Nonfiction Workshop: Writing About the Arts. 100 Units.

Thinking about practices is a way of focusing a conversation between art historians, creative writers, and working visual artists, all of whom are encouraged to join this workshop. We ourselves will be practicing and studying a wide variety of approaches to visual art. We'll read critics like John Yau and Lori Waxman, keepers of notebooks like John Berger and Rainer Maria Rilke, meditations by art historians writing for general readers, and by creative writers like Zadie Smith and Mark Doty, and writing by artists, from Anni Albers to Dawoud Bey. The course hopes to support students both in developing useful practices and experimenting boldly. Every class session will begin with student-led observation at the Smart Museum, and we will spend one session on close looking at works on paper at the Smart. Students will also visit five collections, exhibitions and/or galleries and, importantly, keep a looking notebook. Students will write a number of exercises in different forms (immersive meditation, researched portrait, mosaic fragment), and will also write two essays (on any subject and in any mode) to be workshopped in class.

Instructor(s): Rachel Cohen Terms Offered: Spring

Prerequisite(s): Instructor consent required. Apply via creativewriting.uchicago.edu (writing sample required). Attendance on the first day is mandatory.

Equivalent Course(s): CRWR 24002, CRWR 44002, ARTH 24002

## ARTH 34008. Advanced Nonfiction Workshop: Drawing from Life. 100 Units.

This is a course for students interested in developing their ability to write about the visual arts, as critics, appreciators, theorists, or memoirists, and, practically, for work in galleries, museums, journals, and magazines. A theme of the course will be to explore ways that art and life may interact, both in the work made by a visual artist, and in the nonfiction that arises in response to a visual artist or their work. Some students may be interested to write biographically about artists and their work, and we'll talk about how to make biography illuminating and not reductive; other students may be interested to draw on their own life experiences as they try to shed light on works of art; still others may be curious to see how certain artists themselves have viewed the questions and practices of drawing from life. We'll use ideas about drawing, and especially drawing repeatedly, as a model and a metaphor for thinking about writing. We'll have some occasions to look at works on paper held at the Smart Museum, and we'll visit some exhibitions and galleries, together and independently. Readings will include works such as James Lord's book A Giacometti Portrait, on being drawn by Giacometti, Maggie Nelson on the color blue in life and art from Bluets, John Berger on drawing, Rebecca Solnit on photographer Edweard Muybridge, Geoff Dyer on street photography from The Ongoing Moment, John Yau on Jasper Johns's practice and on those of contemporary artists, Zbigniew Herbert

Instructor(s): Rachel Cohen Terms Offered: Spring

Prerequisite(s): Instructor consent required. Apply via creativewriting.uchicago.edu (include writing sample). Attendance on the first day is mandatory.

Equivalent Course(s): ARTH 24008, CRWR 24008, CRWR 44008

## ARTH 34090. Japanese Woodblock Prints: From 1660 to the Present. 100 Units.

Despite the availability of moveable type, woodblock printing-in which each printed sheet was produced by an intricately hand-carved block-was the main reproductive technology in early modern Japan (roughly 1600 to 1850) for both texts and images. In these years, Japan's high literacy rates and booming urban publishing industry gave rise to an array of fascinating illustrated books and prints-from theater ephemera and guidebooks to "art" prints, landscape series, and supernatural tales-that offer interesting points of comparison with early modern printing in the West. Drawing on a recent exhibition at the Smart Museum, this course will consider Japanese woodblock prints as artistic and social objects during the seventeenth through nineteenth centuries. While viewing actual prints in area collections, we will discuss style and technique, the representation of class and gender, the world of the pleasure quarters, illustrated plays and fiction, urban growth and travel, censorship, and the supernatural.

Instructor(s): C. Foxwell Terms Offered: Spring

Equivalent Course(s): ARTH 24090, EALC 24090, EALC 34090

## ARTH 34615. Modern & Contemporary Materialities (Suzanne Deal Booth Conservation Seminar) 100 Units.

This course aims to explore the links between materiality, making and meaning of modern art and investigate how surface, form, texture and color are localized in particular artistic or historical contexts. It can be argued that the discipline of art history still remains substantially divided between those who study what objects mean and those who study how objects are made, where 'meaning' typically derives from cultural hermeneutics, while 'madeness' remains the province of technical analysis. The course will discuss the methods, theory and strategies of a material-based approach, its forms of writing and claims to meaning. Readings will be drawn from a variety of disciplines, including art history, visual and material culture, anthropology, philosophy, and material science.

Instructor(s): M. Kokkori Terms Offered: Autumn

Note(s): Students must have instructor consent to register for this course. Please email Maria Kokkori at mkokkori@artic.edu by Tuesday, September 8th to express your interest, indicate any previous experience you have with the course topics, and how you envision contributing toward the conservation initiative's goal of diversifying the field of conservation and conservation science.

Equivalent Course(s): ARTH 24615

# ARTH 34626. Allure of Matter: Material Art in China. 100 Units.

This seminar examines contemporary art in China through the lens of the Smart Museum of Art's upcoming exhibition, The Allure of Matter: Material Art in China. Using works in the exhibition as case studies, the course explores questions about materials and materiality in contemporary art. Throughout the course, we will address the following questions: How have unconventional materials impacted art practices in China? How do these material explorations inform our understanding of contemporary art in China and beyond? How do materials mediate different relationships between the artist, artwork and viewer? Guest speakers, including conservators, will expand our discussions of materiality. The course will meet for approximately half of the time at the Smart Museum or Wrightwood 659.

Instructor(s): O. Cacchione Terms Offered: Winter

Prerequisite(s): Students who have taken a course in modern or contemporary art history preferred. Equivalent Course(s): EALC 34627, EALC 24627, ARTH 24626

# ARTH 34706. Japanese Art in the Sinosphere. 100 Units.

From the earliest centuries of the common era until the 1870s, Japanese writers, artists, and scholars considered themselves to be living in the Sinosphere: the realm of China's cultural and political centrality. Starting with a consideration of Chinese material culture in the Tale of Genji, we will proceed to address topics such as the relation between Chinese and Japanese handscroll paintings, the spread of Chinese-style ink monochrome painting in Japan, the rise of the Kano school as official painters and Chinese-style painting experts, and the immense popularity of literati painting and calligraphy. Korean painting's intersection with Chinese and Japanese art in the medieval and early modern periods will also factor into the discussion. We will evaluate the changing dynamics around political power and gender embodied in the Chinese/Japanese oppositional duality and reassess the prevailing narratives concerning how the Sinosphere faded from view in the Meiji era. Instructor(s): C. Foxwell Terms Offered: Winter

Note(s): Students must attend first class to confirm enrollment. Registration is permitted by instructor consent only. Equivalent Course(s): GNSE 34706, GNSE 24706, ARTH 24706

## ARTH 34721. Manet, Mallarmé, and Modernism. 100 Units.

Much of the theory, as well as the look and sound of modern art, as it developed in the late nineteenth century, is the result of the individual efforts as well as the friendly collaboration of the Parisian painter Edouard Manet and the Parisian poet and English teacher Stéphane Mallarmé. This course will introduce them, examine their major collaborations (Le Courbeau, L'Après-Midi d'un Faune), and place them within the developing consensus in experimental art and thought at the fin de siècle, which for reasons having to do with the reception Mallarmé, came to be called symbolism.

Instructor(s): A. Pop Terms Offered: Spring

Equivalent Course(s): FNDL 25007, ARTH 24721, SCTH 35007

# ARTH 34813. Museums and Art, 1750-1920. 100 Units.

This course considers how the rise of the art museum in the modern era affected the making of modern art and the viewing of past art. It is not designed to be a survey course, but rather a historical investigation of certain issues and developments. We will concentrate on the following: what has been said to happen to objects when they are uprooted and moved into the museum; how and why museums have changed display practices so as to get viewers to look at art in new ways; what artists have understood museums to represent and how they have responded to that understanding in their work and their display preferences. Case studies will be drawn from across Europe and the United States.

Instructor(s): M. Ward Terms Offered: Autumn

Equivalent Course(s): ARTH 24813

# ARTH 34814. Museums and Art, 1920-present. 100 Units.

This course considers the history of the art museum in relation to developments in modern and contemporary art. We will focus upon how political, social and commercial factors transformed art institutions and display practices in the early and mid-century 20th century; how various challenges -- artists' critiques, new forms of art making, different audiences - did (or did not) lead to change in the 1960s; and how museums have continued to evolve in the times since. Case studies will be drawn from across Europe and the United States.

Instructor(s): M. Ward Terms Offered: Spring Equivalent Course(s): ARTH 24814

## ARTH 35001. Theatricality in Modern Art from 1700 to the Present. 100 Units.

We examine the dramatic dimension of art in the modern era broadly speaking, paying attention to recurring themes like the Aristotelian theory of acton, the Diderotian theory of acting, and the linguistic theory of speech acts, as well as to momentous historical events like the French Revolution, the rediscovery of antiquity, and the advent of photography and motion pictures. Paradigms that have been influential in one or another discipline like Michael Fried's theory of theatricality (in art history), Heinrich Kleist's theory of puppets (In German literature and theatre theory) and Friedrich Nietzsche's theory of tragedy (in music and philosophy) and will also be scrutinized. Equivalent Course(o): SCTH 25001

Equivalent Course(s): SCTH 35001

## ARTH 35101. French Art, criticism and Reception. 100 Units.

France has a long history of inspired writing on art by literary figures and critics. This course will examine in tandem key paintings and writings from the period during which modernism developed, from the Revolution of 1848 to the outbreak of WWI. We will seek to understand the aesthetic and social issues that artists and their literary counterparts shared, but also their sense of the incommensurability of visual and verbal expression. While the emphasis will be on close looking and reading, we will also contextualize these concerns in the French art world by analyzing exhibition practices and modes of reception. Students will be expected to participate in discussions and study sessions at the Art Institute and Regenstein Special Collections, to write an essay exam, and to do a short research project on a topic of their choice. Instructor(s): Martha Ward Terms Offered: Autumn

Prerequisite(s): Registration is permitted by consent only. Students must attend 1st class to confirm enrollment. Equivalent Course(s): ARTH 25101

## ARTH 35111. Rhoades Seminar: Theory, History, and Practice of Textiles - The Andes. 100 Units.

How many minutes of your day are spent with some form of textile touching your skin? And yet, what do you really know about them? This seminar will introduce you to the basic concepts and techniques of making textiles. While readings and discussions will offer globally-relevant perspectives on textiles, the course's primary lens will be the prolific textile tradition that developed in the region of the Andes Mountains over thousands of years. In this course, you will conduct hands-on experiments with technologies for spinning, dyeing, and weaving in an art historical laboratory setting, in order to understand the tools, techniques, and embodied knowledge that they entail. You will then apply what you have learned in these experiments to your own studies of ancient Andean textiles in the stellar collection of the Art Institute of Chicago. Readings will draw on scholarship, reference works, and how-to manuals. Written assignments will take the form of gallery labels and catalogue essays in order to better understand these geners of writing. This course has no prerequisites, but a willingness to participate in active learning (and not having a fear of perhaps doing something badly the first time) are essential. A background in art practice may be helpful, but is in no way necessary or required. Because wool will be handled extensively, potential allergies should be considered before enrolling.

Instructor(s): A. Hamilton Terms Offered: Winter

Note(s): This course meets at the Art Institute of Chicago. Students should plan their schedules accordingly to account for travel.

Equivalent Course(s): ARTH 25111, LACS 23512, LACS 33512

## ARTH 35113. Rhoades Seminar: Possibility and Peril: Material and Technical Innovations in Modern Textiles. 100 Units.

This course will consider the material and technical innovations that attended industrialized textile production in the nineteenth and twentieth centuries. Among the topics considered will be the invention of new fibers such as rayon, Lurex, and polyester, the introduction of synthetic dye stuffs, and the rapid mechanizing of the production process. The promises of these innovations will be examined alongside a consideration of their functional and ecological implications. Instructor(s): E. Warren Terms Offered: Winter

Note(s): This course meets at the Art Institute of Chicago. Students should plan their schedules accordingly to account for travel. Students must attend first class to confirm enrollment.

Equivalent Course(s): ARTH 25113

## ARTH 35115. Winckelmann: Enlightenment Art Historian and Philosopher. 100 Units.

We approach the first great modern art historian through reading his classic early and mature writings and through the art and criticism of his time (and at the end, our own). Reading-intensive, with a field trip to the Art Institute. Instructor(s): Andrei Pop Terms Offered: Autumn

Prerequisite(s): German reading competence helpful, but NOT required.

Equivalent Course(s): GRMN 35015, SCTH 35000, CLAS 35014, KNOW 35000, GRMN 25015, ARTH 25115

## ARTH 35213. Hermeneutics of the Image. 100 Units.

What does it mean to "read" an image? To achieve an understanding of its "meaning"? This is not an easy question since images don't directly offer propositional content, which is the usual habitat of meaning. In this seminar, we will approach this question by considering first some foundational contributions to hermenutics (Gadamer, Hirsch) and to the theory of pictorial meaning (Wollheim). We will then dig into the tradition of pictorial interpretation as it unfolds starting with Winckelmann and Diderot and extending to the present day (Fried, Clark). Freudian hermeneutics (Freud, Adrian Stokes), iconology (Panofsky), and phenomenology (Merleau-Ponty, Heidegger) will also be considered. In each case, we will endeavor to test the claims and interpretive findings through close examination of the images involved. The emphasis will be on the tradition of European painting and sculpture, but the tools acquired in the seminar should also be applicable in other fields.

Instructor(s): David Wellbery Terms Offered: Winter

Prerequisite(s): For advanced undergrads, consent of instructor required. Equivalent Course(s): GRMN 35213, ARTH 25213, GRMN 25213, SCTH 38113

## ARTH 35540. Fact and Fiction. 100 Units.

Since Grierson's definition of the documentary as "creative treatment of actuality," critics have been struggling to establish distinctions between documentary and fiction. Furthermore, the critical discourse has been constantly challenged by new artistic meditations of reality and its representation, and works blurring the border between the logic of facts and the logic of fiction. Additionally, this dualism is complicated by the difficult question of truth telling. Cinema has a long and winding history of non-fiction: from staged or dramatized actualities at its beginning, via docudrama, fake documentaries and mockumentary, to trends in recent documentaries that incorporate reenactment and animation. Since the mid-1990s the "documentary turn in contemporary art" has seen more and more artists experimenting with documentary modes through which they are questioning the mediations by which facts/documents acquire their facticity. The aim of this seminar will be to examine films and works in contemporary at that address these difficult questions of fact and fiction. Readings will include work from film and art criticism and theory, as well as critical literature addressing questions of fact and fiction in historiography, narratology, and philosophy. Films may include works by Edison, Robert Flaherty, Ari Folman, Abbas Kiraostami, Chris Marker, George Mélies, Avi Mograbi, Rithy Panh, Peter Watkins. Works by contemporary artists may include Kutlug Ataman, The Atlas Group/

Equivalent Course(s): ARTH 25540, CMST 25540, ARTV 20540, MAPH 45540, ARTV 45540, CMST 45540

# ARTH 35709. Picturing Moral Autonomy in China and Elsewhere. 100 Units.

This course examines how intellectuals in Preindustrial China maintained their independence, as well as their moral compass, in times of inordinate social and political pressure. Systematic thinking on this topic appears early in China, beginning with Confucius and Mencius, but was by no means limited to the Confucian tradition. Zhuangzi (late 4th c. BCE) devoted an entire chapter to the problem. This course will survey some important meditations on the topic from the Classical period, but will focus on the Song dynasty (960-1278) with its rich body of essays, poems, and paintings touching upon the problem of moral autonomy. To supplement our study of primary sources we'll read secondary sources on Song law, society, and government, as well as relevant secondary studies of European art. Later in the course we will read reflections on Song period Chinese essays by English radicals of the 18th century, and will wrap up with American classics by Henry David Thoreau, Ralph Waldo Emerson, and Wendell Berry. Along the way we will learn how to conduct "close readings" of both written and visual materials for clues to the deep, humanistic themes underlying artistic choice. Instructor(s): M. Powers Terms Offered: Autumn

Equivalent Course(s): ARTH 25709, EALC 25709, EALC 35709

## ARTH 35810. Global Abstraction. 100 Units.

This course investigates twentieth-century abstraction as a global phenomenon, focusing on the period from 1945 through the 1960s. Case studies will be drawn primarily from the United States, Europe, Latin America and East Asia, but individual research projects from other regions will be welcome. Themes and questions to be addressed include: the repetition of historical avant-garde strategies such as the grid, the monochrome, and non-compositional order in Europe, the United States, and South America; the global reception and adaptation of Abstract Expressionism; distinct understandings of gesture, mark-making, and subjectivity; the meaning and use of color; the relationship of abstraction to industry and design; the deployment of abstraction as a "weapon of the Cold War" and a strategy of internationalization; and autochthonous definitions of abstraction outside the West. Artists and groups to be studied include: Jackson Pollock, Barnett Newman, Ellsworth Kelly, Agnes Martin, Zero, Blinky Palermo, Georges Mathieu, Lucio Fontana, Neoconcretism, Alejandro Otero, Gutai, and Tansaekhwa.

Instructor(s): M. Sullivan Terms Offered: Spring

Note(s): Students must attend first section to confirm enrollment. Equivalent Course(s): LACS 25810, LACS 35810, ARTH 25810

## ARTH 35890. Theories of Autonomy and Visual Art. 100 Units.

Claims for art's autonomy, for its independence from other areas of cultural pursuit, sound incredible today. For some, something art's own continues to feel like an entitlement-even as matters of aesthetics fully entwine with political affairs. The question of autonomy returns with new force in times of crisis representation such as today's. We will explore autonomy and related problems with guidance and provocations from Roger de Piles, Denis Diderot, Frederick Douglass, Roger Fry, Clement Greenberg, Elaine de Kooning, Donald Winnicott, Gilbert and George, R. D. Laing, Cornelius Castoriadis, Michel Foucault, Joan Scott, Diana Fuss, Hortense Spillers, Adam Phillips, Louise Glück, Diana Fuss, Alan Brubaker, Achille Mbembe, and others.

Instructor(s): Darby English Terms Offered: Winter

Prerequisite(s): Permission of instructor required for registration.

Note(s): Permission of instructor required for registration.

Equivalent Course(s): ARTH 25890

## ARTH 35895. Autonomy Etc. 100 Units.

Description Forthcoming. Instructor(s): D. English Terms Offered: Winter Note(s): Students must attend first class to confirm enrollment. Registration permitted by consent only. Equivalent Course(s): ARTH 25895

# ARTH 36106. Exhibition in Practice II. 100 Units.

Students in this course will work together to install an exhibition at the Smart Museum of Art. Building on the work produced in ARTH 2/36015 Exhibition in Practice I (spring 2019), students collaborate to write exhibition texts, coordinate programming, and participate in the installation process. Workshopping texts, trouble-shooting, and hands-on activities will feature in class sessions. Readings for this course explore diverse ways to approach exhibition narratives, from museum labels to catalogue essays.

Instructor(s): L. Wilson Terms Offered: Autumn Equivalent Course(s): ARTH 26106

### ARTH 36110. Ways of Curating and Collecting. 100 Units.

This seminar takes stock of contemporary currents in curating and collecting practices at a time when we are experiencing rapid expansion of the museum sector internationally, and witnessing the growing ubiquity of "curation" within the spheres of leisure, culture, entertainment and tourism. Using institutions across campus, the city of Chicago and beyond as our primary locus, we will explore curatorial and collecting strategies employed by a variety of visual arts institutions and platforms from the scale of the single-room/single curator gallery, to the museum and the international biennial. We will consider how curatorial and exhibition-making practices have evolved from the latter half of the 20th century to the present day. We will consider the socio-cultural and political implications of curatorial work, and reflect on the shifting status of the art object within collecting and non-collecting institutions. Together we will explore significant curators, artists and thinkers. Course readings will feature the writings of seminal international curators as well as selections from historians and theorists in the field of curatorial studies. Students will work through a series of independent and collaborative assignments as well as a final project that integrates curatorial theory and practice.

Instructor(s): Y. Umolu Terms Offered: Winter

Equivalent Course(s): ARTV 30008, ARTV 20008, ARTH 26110

## ARTH 36200. Magic and the Cinema. 100 Units.

This course will trace relations between motion pictures and traditions of magic, both as a theatrical entertainment and as a belief system. The invention of cinema's roots in the magic lantern and other "philosophical toys" which trick the senses into seeing visual illusions will be explored in relation to traditions of "Natural Magic" as well as a secularization of magical practices into entertainment from the Renaissance on. The early trick films of Méliès and others will be discussed in relation to the tradition of stage magic in the 19th century, as well as a particular reception of the magical nature of new technologies (electricity, photography, sound recording). The relation between cinema and hypnosis, both as a social concern and as metapsychological description of spectatorship will also be explored. A consideration of the appeal of magic systems of thought (spiritualism, theosophy, ritual magic) for Avant-Garde movement and their relation to experimental films by Epstein, Artaud, Deren, Anger, Smith, Fischinger, and others.

Equivalent Course(s): CMST 35600, ARTH 26200, CMST 25600

#### ARTH 36791. Best in Show: Art History as Exhibition History. 100 Units.

In this course, I propose a reading of post-war art history as seen, in part,through the periodical prism of one of the field's most important, signature events - the five-yearly Documenta exhibition in Kassel, Germany. Starting with the founding 1955 edition organized by Arnold Bode and ending with the 2017 edition which I worked on as a curator, we will discuss one chapter of Documenta's history per class alongside related events like the Venice and Sao Paulo biennials and Skulptur. Projekte Münster, touching upon such key issues of contemporary art practice and theory as the dynamics of globalization, identity politics, the vagaries of market influence, history and memory and the pressures of the social realm on aesthetic experience. As a history of exhibition making and curatorial practice, the course will also draw on recent developments in museum culture and the everyday politics of the art world's various institutions, and will be recounted in part from the perspective of exhibition-making experience. The class will consist of hands-on curatorial exercises, as well as writing and reading assignments that mirror and follow the 64-year arc of our historical periodization.

Instructor(s): D. Roelstraete Terms Offered: Spring

Note(s): Students must attend first section to confirm enrollment.

Equivalent Course(s): ARTH 26791, ARTV 24265, ARTV 34265

## ARTH 37301. Aesthetics: Phil/Photo/Film. 100 Units.

Equivalent Course(s): CMST 39300, ARTH 27301, CMST 29300, PHIL 31301, PHIL 21100

# ARTH 37303. The Body in Ancient Greek Art and Culture. 100 Units.

This course provides an introduction to the role of the human body in ancient Greek art. We will examine, on the one hand, the various ways in which Greek artists represented the body, and consider how forms of bodily identity such as gender and sexuality were constructed and articulated through artistic practice. But we will also consider the ways in which works of art themselves - statues, paintings, vessels - could function like bodies or in place of bodies, expanding the notion of what it means to be a living being. Readings will range from primary texts - ancient literature in translation - to more theoretical writing on embodiment, gender, and sexuality.

Instructor(s): S. Estrin Terms Offered: Autumn

Note(s): Students must attend first class to confirm enrollment. This course meets the general education requirement in the arts.

Equivalent Course(s): ARTH 17303, CLCV 17319, GNSE 17303

# ARTH 37440. Buddha Then and Now: Transformations from Amaravati to Anuradhapura. 100 Units.

The Buddhist sculptures in Amaravati are arguably the earliest to influence the early Buddhist art of the other parts of the sub-continent as well as south and southeast Asia. The course begins with the discussion of the context in which the Buddha images were made in Amaravati and the factors including Buddhist doctrinal developments that contributed to the spread of these images to various parts of Sri Lanka. Then it traces the course and function of Buddhist iconography in Sri Lanka until into the 21st century to assess the role of geopolitical factors. The positionality and portrayals of the Buddha from a symbol of peace to jingoist assertiveness. Through the study of the images of the Buddha, the aim is to comprehend the ways Buddhism has changed over centuries from an inclusive posture which helped it sustain and spread to different parts of the world only later to become exclusionary.

Instructor(s): Sree Padma Holt Terms Offered: Winter

Equivalent Course(s): SALC 37440, HREL 37440, RLVC 37440, RLST 27440, ARTH 27440, SALC 27440, HIST 36704

## ARTH 37724. Material Constructions of State and Nation: Latin America, 1800-1850. 100 Units.

Covering the wars of Independence and the transition to Republican statehood, this course will address the continuities and ruptures affecting the visual traditions and material cultures of the Colonial period in this crucial period in Latin American history. Intended as a broad survey of the region, the course attempts to think through a political history of objects and images as a way to understand the process of nation-state formation.

Terms Offered: Spring

Equivalent Course(s): ARTH 27724, LACS 27724, LACS 37724

## ARTH 37800. The Material Science of Art (Suzanne Deal Booth Conservation Seminar) 100 Units.

This course will introduce students to the methods, theories, and strategies of scientific approaches to studying art objects and consider the meaning of different materials and surfaces across artistic media. It will showcase new scholarship generated in the field of conservation science and object-based art history that draws its strength from the collaborative work among scientists, conservators, art historians, and theorists. Conservation science draws on the applied sciences and engineering to understand how to preserve the world's cultural heritage and forge connections between making and meaning. The course will explore scientific examinations to investigate the production and use of art objects. Focusing on material studies of paintings and sculptures, pigments as well as their binding media, students will learn about the material make-up of art objects by employing visual analysis alongside practical studies using scientific analysis and imaging on campus and at the Art Institute of Chicago. Readings will be drawn from a variety of disciplines, including material science and chemistry, art history, visual and material culture, anthropology, and philosophy.

Instructor(s): M. Kokkori Terms Offered: Spring

Note(s): Students must have instructor consent to register for this course. Students must attend first section to confirm enrollment.

Equivalent Course(s): ARTH 27800

# ARTH 38212. Photography in Africa and African Diaspora. 100 Units.

From photography in the 19th century to the present, this course explores how and why photography became central to arguments about the modernity of African visual art and the roles it has played throughout the continent, the diaspora, and beyond. Moving from one regional focus to the next, students examine photography's roles in expeditionary and ethnographic projects, identity formation, political activism, spirituality, documenting the landscape, and representing the fantastical and the everyday. This course will include visits to the Art Institute of Chicago among other area institutions. Instructor(s): L. Wilson Terms Offered: Spring

Equivalent Course(s): ARTH 28212

## ARTH 38405. The Films of Alfred Hitchcock. 100 Units.

This course focuses on the films of Alfred Hitchcock, one of the greatest filmmakers of the 20th century. We study both his films and a variety of approaches to them. We investigate the enduring power of his movies; his contributions to genre and popular cinema; his storytelling techniques; his stylistic command; his approach to romance, suspense, and action; his status as a master and auteur; and his remarkable control over the audience's thoughts and feelings. Equivalent Course(s): ARTH 28405, CMST 36500, FNDL 26510, CMST 26500

## ARTH 38500. History of International Cinema I: Silent Era. 100 Units.

This course provides a survey of the history of cinema from its emergence in the mid-1890s to the transition to sound in the late 1920s. We will examine the cinema as a set of aesthetic, social, technological, national, cultural, and industrial practices as they were exercised and developed during this 30-year span. Especially important for our examination will be the exchange of film techniques, practices, and cultures in an international context. We will also pursue questions related to the historiography of the cinema, and examine early attempts to theorize and account for the cinema as an artistic and social phenomenon.

Instructor(s): A. Field Terms Offered: Autumn

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): For students majoring in Cinema and Media Studies, the entire History of International Cinema three-course sequence must be taken.

Equivalent Course(s): MAAD 18500, CMLT 32400, CMST 48500, CMST 28500, ENGL 29300, ARTH 28500, CMLT 22400, ARTV 20002, MAPH 33600, ENGL 48700

## ARTH 38600. History of International Cinema II: Sound Era to 1960. 100 Units.

The center of this course is film style, from the classical scene breakdown to the introduction of deep focus, stylistic experimentation, and technical innovation (sound, wide screen, location shooting). The development of a film culture is also discussed. Texts include Thompson and Bordwell's Film History: An Introduction; and works by Bazin, Belton, Sitney, and Godard. Screenings include films by Hitchcock, Welles, Rossellini, Bresson, Ozu, Antonioni, and Renoir. Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): CMST 28500/48500 strongly recommended

Equivalent Course(s): MAAD 18600, CMLT 32500, CMLT 22500, ARTH 28600, ARTV 20003, ENGL 48900, ENGL 29600, MAPH 33700, CMST 28600, REES 45005, CMST 48600, REES 25005

## ARTH 38702. Tales Retold? Modern & Contemporary Chinese Art. 100 Units.

Owing to its revolutionary transformations spanning the 20th and early 21st centuries, China offers a unique access point to exploring key issues in modern and contemporary art. Modern and contemporary artists from China and the Sinophone world have long confronted rather entrenched double-binds, crises of consciousness. We might consider this a double consciousness, on their part-consciousness of being artists in a globalizing context, on the one hand; of being political or national subjects, on the other. Organized thematically, this class will examine selections of artists, movements, and the discourses surrounding them, to unpack the mutual interrelation of key concepts, art and scholarly practices. Questions to be addressed include: How does art history and criticism currently deal with modern and contemporary Chinese art? How does the art world define this category of art practice; and vice versa, how do artists view the art world? Case studies will include artists practicing today as well as historical artists whose work has become a source for the present. While the class deals primarily with art in China, it will necessarily address the wider issues of globalization and the international institutional networks of contemporary art. Students will be encouraged to think broadly about comparative and inter-Asia relations, rather than dividing the globe into East and West.

Instructor(s): J. Lee Terms Offered: Spring

Equivalent Course(s): ARTH 28702, EALC 28702, EALC 38702

#### ARTH 38703. East Asian Photography Since the Mid-Twentieth Century. 100 Units.

This course will explore the history and practice(s) of photography across East Asia (China, Japan, and Korea) from the mid-20th century to the present day. During the 20th century, these nations moved from the feudal to the industrialized, globalized status. Since their dynamic histories are enmeshed with photographic practices, this course will discuss how photography interprets the history and tells its own stories. We will familiarize ourselves with the most crucial photographers and their practices that emerged in the post-Mao, and post-war periods. Particular emphasis will be given to the ways in which photographers have grappled with legacies of war and revolution, political violence, cultural heritage, and a rapid transition to an industrialized, globalized status. While emphasizing comparative approaches to discuss the rich histories of East Asian photography, this course also takes a close look at how photographic practices of East Asia are converging with global photography.

Instructor(s): Boyoung Chang Terms Offered: Winter

Equivalent Course(s): EALC 28703, EALC 38703, ARTH 28703

# ARTH 39001. Painting and Description in the Roman World: Philostratus' Imagines - Religion, Education, Sexuality. 100 Units.

This course explores Roman art, especially painting, through the single most thoughtful, playful and creative text on naturalistic painting written in antiquity. Arguably, it is the most interesting examination of the brilliance and the problems of naturalism ever written in the Western tradition, creating a non-historicist, fictive and rhetorically-inflected model for thinking about art. Philostratus took the rhetorical trope of Ekphrasis to new heights, in an extraordinary intermedial investigation of textuality through the prism of visuality and of visual art through the descriptive prism of fictional prose. The course will involve close readings of Philostratus' descriptions of paintings alongside exploration of the Greek and Roman art of the imperial period from Pompeian paintings via floor Mosaics to sarcophagi. A reading knowledge of Greek could not be described as a disadvantage (1) but is not a requirement. The course will be taught over 5 weeks in the Spring Quarter on an intensive schedule. =Before the course begins, read the Imagines of the Elder Philostratus in the Loeb Classical Library translation (by Arthur Fairbanks, 1931, Harvard U.P., much reprinted). This book is not exorbitantly expensive and is worth buying, as we will all need a copy throughout.

Instructor(s): Ja# Elsner Terms Offered: Spring

Prerequisite(s): Before the course begins, read the Imagines of the Elder Philostratus in the Loeb Classical Library translation (by Arthur Fairbanks, 1931, Harvard U.P., much reprinted).

Equivalent Course(s): RLST 29001, RLVC 39001, GNSE 39001, GNSE 29001, ARTH 29001

# ARTH 39410. Dimensions of Citizenship: The Venice Architecture Biennale 2018. 100 Units.

In conjunction with the US pavilion at the 2018 Venice Architecture Biennale - co-commissioned by the University of Chicago and co-curated by Professor Niall Atkinson - this Gold Gorvy Traveling Seminar will explore the multiple relationships between architecture and citizenship both in contemporary practice and in historical perspective. The course will be centered around the pavilion's theme of architecture and citizenship at seven spatial scales: Citizen, Civic, Region, Nation, Globe, Network, Cosmos. Through these scales, students will engage critically with the works of participating artists, architects, and designers, works that address the spatial dimensions of belonging in contemporary society. Students will also explore the historical dimensions citizenship through Venice's complex history as a globally connected maritime empire that incorporated multiple linguistic, ethnic, and religious communities. Finally, the seminar will take account of the politics of national display at the root of the biennale itself and the relationship between historical and contemporary spatial experiences of citizenship and rights of abode, belonging and exile, migration and refuge, and the design of liminal spaces such as ships, ports of entry, quarantine centers, and ghettoes as places of agonistic cultural exchange. Instructor(s): N. Atkinson

Note(s): This is a traveling seminar; the course in its entirety will be taught Sept 4-25 in Venice. Registration is limited and by instructor consent only.

Equivalent Course(s): ARTH 29410

## ARTH 39504. Art, Community, Activism. 100 Units.

there is no course description

Equivalent Course(s): ARTH 29504

# ARTH 39505. Objects of Japanese History. 100 Units.

The collections of Japanese objects held at the University of Chicago's Smart Museum, the Field Museum of Natural History, and the Art Institute of Chicago will be examined as case studies in museum studies, collection research, and, more specifically, in the interpretation of things "Japanese." Individual objects will be examined, not only for religious, aesthetic, cultural, and historical issues, but also for what they tell us of the collections themselves and the relation of these collections to museum studies per se.

Instructor(s): C. Foxwell & J. Ketelaar Terms Offered: Spring

Prerequisite(s): We will make several study trips to the Smart Museum, the Field Museum of Natural History, and the Art Institute of Chicago during class time.

Equivalent Course(s): HIST 24602, EALC 39504, EALC 29504, ARTH 29505, HIST 34602

# ARTH 39800. Approaches To Art History. 100 Units.

This seminar will examine a range of methodological approaches to doing the work of art history. Through close reading of key texts, we will interrogate how various authors have constructed novel ways of seeing and understanding visual and material objects. Crucially, this course doesn't assume "theory" or "methodology" to be a set of texts we use to explicate or read works of art in specific ways. Rather, we investigate how each of our authors forges new concepts in response to an object's specific exigencies. Students need not self-identify as art historians to enroll in this seminar-it will be helpful for all students who want to think deeply and in self-reflexive ways about their own approaches to visual and material objects (still or moving images, sculpture, performance, architecture, etc.), particularly if those objects feel genre-bending, difficult to theorize, or recalcitrant in any way. Readings will include foundational texts by Erwin Panofsky, Alois Riegl, and Meyer Schapiro and more recent texts by Yves Alain Bois, Rosalind Krauss, T.J. Clark, Douglas Crimp, Anne Wagner, Darby English, and others (as determined by students' interests).

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): Open to MAPH students concentrating in Art History. Others by consent only.

## ARTH 39900. Methods and Issues in Cinema Studies. 100 Units.

This course offers an introduction to ways of reading, writing on, and teaching film. The focus of discussion will range from methods of close analysis and basic concepts of film form, technique and style; through industrial/critical categories of genre and authorship (studios, stars, directors); through aspects of the cinema as a social institution, psycho-sexual apparatus and cultural practice; to the relationship between filmic texts and the historical horizon of production and reception. Films discussed will include works by Griffith, Lang, Hitchcock, Deren, Godard.

Instructor(s): S.Skvirsky Terms Offered: Autumn

Equivalent Course(s): ENGL 48000, CMST 40000, MAPH 33000

# ARTH 40010. Ruins. 100 Units.

Ruins" will cover texts and images, from Thucydides to WWII, via the Reformation. We will include films (e.g. Rossellini's "Germany Year Zero"), art (e.g. H. Robert, Piranesi) archaeology, and the museum (Soane). On ruins writing, we will read Thucydides, Pausanias from within antiquity, the Enlightenment responses to the destruction and archaeological rediscovery of Pompeii, Diderot, Simmel, Freud on the mind as levels of ruins (Rome) and the analysis as reconstructive archaeologist as well as on the novel Gradiva and the Acropolis, the Romantic obsession with ruins, and the firebombing in WWII. We will also consider the photographing of ruins, and passages from the best-known works on photography (Benjamin, Sontag, Ritchen, Fried, Azoulay). The goal is to see how ruin gazing, and its depictions (textual, imagistic, photographic, etc.) change from the ancients (Greek and Roman), to the Romantic use of ruins as a source of (pleasurable) melancholy, to the technological "advances" in targeting and decimating civilian populations that describe the Second Word War. Equivalent Course(s): RLIT 40010, CDIN 40010, CMLT 40010

## ARTH 40200. Art History Proseminar. 100 Units.

How do we do art history? What is it? What are its premises and where does it come from? This seminar will explore the historical foundations, formulations and applications of current art historical methods, as well as the foundations of the art historical discipline as it emerged from the late 19th and early 20th centuries. Both theory and practice will be considered through select texts, with special focus on art history as a distinct scholarly discipline today. Required of all first year ARTH PhD students.

Instructor(s): C. Foxwell Terms Offered: Autumn

Note(s): Open to and required of first year Art History PhD students only.

## ARTH 40204. Destruction of Images, Books & Artifacts in Europe and S. Asia. 100 Units.

The course offers a comparative perspective on European and South Asian iconoclasm. In the European tradition, iconoclasm was predominantly aimed at images, whereas in South Asian traditions it was also enacted upon books and buildings. The combination of these traditions will allow us to extend the usual understanding of iconoclasm as the destruction of images to a broader phenomenon of destruction of cultural artifacts and help question the theories of image as they have been independently developed in Europe and South Asia, and occasionally in conversation with one another. We will ask how and why, in the context of particular political imaginaries and material cultures, were certain objects singled out for iconoclasm? Also, who was considered to be entitled or authorized to commit their destruction? Through a choice of concrete examples of iconoclasm, we will approach the iconoclastic events in Europe and South Asia through the lenses of philology, history, and material culture. Class discussions will incorporate not only textual materials, but also the close collaborative study of images, objects, and film. Case studies will make use of objects in the Art Institute of Chicago and Special Collections at the University Library.

Equivalent Course(s): RLVC 50204, SCTH 50204, CMLT 50204, HREL 50204, CDIN 50204, SALC 50204

## ARTH 40307. Seeing and Knowing. 100 Units.

The concept of visuality attends to the ways in which things become seeable, knowable, and governable. Scholars who study optical instruments, architecture, cinema, and media have done much to show us how visual technologies change our ways of seeing. Others in the history of science study how practices of observation transform our understanding of natureand ourselves. This comparative course analyzes regimes of visuality in different cultural and historical contexts. After a short introduction on the philosophy of visual experience and psychology of visual perception, we will investigate a series of configurations of seeing and knowing. These sites range from the history of disability to contemporary climate science, and students will be asked to contribute visual topics from their own research or disciplines for collective exploration in our seminar. Through comparative study, we will work to develop new categories or relationships for linking perception and knowledge.

Instructor(s): Alex Campolo Terms Offered: Spring

Equivalent Course(s): CHSS 40307, CMST 47007, KNOW 40307

## ARTH 40310. The Discovery of Paganism. 100 Units.

How do we know what we know about ancient religions? Historians of religion often begin by turning to texts: either sacred texts, or, in the absence of such scriptures, descriptions of belief and practice by observers from outside the faith. Archaeologists focus their attention on the spaces and traces of religious practice-or a least those that survive-while art historians begin by examining images of deities and religious rites. Yet we often fail to see the extent to which the questions which we ask of all of these diverse sources are conditioned by Christian rhetoric about pagan worship. In this course, we compare two moments when Christians encountered "pagans": during the initial Christian construction of a discourse on paganism (and, more broadly, a discourse on religion) during the late Roman empire and during the Spanish discovery of the New World. Our course examines silences and absences in the textual and material records, as well as the divergences between texts and objects, in order to further our understanding of ancient religious practice. We will begin to see the many ways in which, as scholars of religion, we are in effect still Christian theologians, paving the way for new approaches to the study of ancient religion.

Equivalent Course(s): LACS 40301, CDIN 40301, CLAS 44916, ANCM 44916, HREL 40301, KNOW 40301, HIST 64202

# ARTH 40311. Technology and Aesthetics. 100 Units.

The idea of technological "progress" is a contested one, but it cannot be denied that innovation, at the very least, is a continuous process. Technological innovations regularly enable new mediums, new styles, new genres, and new subject matter as they offer us new ways to record the world, express ourselves, and tell stories. And because art is one of the fundamental lenses through which we see the world, the advent of new artistic and literary forms constantly offers us new ways to know. Each transformation in both creation and reception, however, raises anew fundamental theoretical questions: what is the difference between an objective record of the world and an artistic rendition of it? After touching briefly on the revolution brought about by Gutenberg's invention of the printing press, this class will span the 19th through the 21st centuries to explore how technological innovation has led to new literary and aesthetic forms. Though the primary focus will be on literary texts, the course is intended as an interdisciplinary one, incorporating visual art and media. Class sessions will include visits to the Rare Book Collection, local art museums, and, potentially, Chicago-area theatre performances. For their final projects, students will be able to choose between a research paper or a creative project that engages with the questions and concerns of the course.

Instructor(s): Anastasia Klimchynskaya Terms Offered: Spring Equivalent Course(s): CHSS 40410, KNOW 40310, ARTV 40310

# ARTH 40400. Ekphrasis: Art & Description. 100 Units.

This course explores the rich tradition of ekphrasis in Greco-Roman and Christian antiquity - as it ranges from vivid description in general to a specific engagement with works of art. While the prime focus will remain on texts from Greece and Rome (both prose and verse) - in order to establish what might be called the ancestry of a genre in the European tradition -- there will be opportunity in the final paper to range beyond this into questions of religious writing about art, comparative literature, art (history) writing and ekphrasis in other periods or contexts. The course is primarily intended for graduates - and a reading knowledge of Greek and Latin could not be described as a disadvantage! The course will be taught over 5 weeks in the Spring Quarter on an intensive schedule. It will be examined on the basis of a paper, due on a subject to be agreed and on a date to be agreed at the end of the Spring quarter.

Instructor(s): J. Elsner Terms Offered: Spring

Equivalent Course(s): CLAS 42600, NTEC 40400, RLVC 40400, BIBL 40400

## ARTH 40585. Journeys Real & Virtual. Travel in the Pre-modern Mediterranean. 100 Units.

This course focuses on the art of travel in the Medieval and early modern Mediterranean. From the late Middle Ages through the sixteenth century, European pilgrimage to the Holy Land constituted some of the most advanced experiments in representing travel, describing foreign cities, and mapping out territories. Travel accounts represent the core material around which this course is structured along with images and maps in other contexts that such experiments influenced. Course material will span the fields of religion, art, literary, and urban history, encompassing historical geography, cartography, and cultural history. Students will engage directly with the verbal and visual modes that characterize the documentary legacy of mental and physical travel in order to come to terms with the different regimes of knowledge they construct as well as the cognitive demands they place on their audience. Through a comparison of techniques, students will explore the ways in which texts, images, and maps sought to understand human interaction, visualize geographical context, locate history, and make sense of the world beyond their drama of their local experience.

Instructor(s): Niall Atkinson and Karin Krause Terms Offered: Spring

Prerequisite(s): Consent required: Please email Prof. Atkinson or Prof. Krause for request form.

Equivalent Course(s): RLVC 45805, CDIN 45085, NEHC 30585, HCHR 45805, HIST 60705, RLLT 33020

# ARTH 41150. Art & the World Religions: First Millennium from India to Ireland. 100 Units.

This course, building on the recent Empires of Faith project at the British Museum will explore the interface of visual and religious identity in the formative period when all the religions currently considered 'world religions' were developing their characteristic iconographies. The course will attempt to open comparative and historical perspectives on religion through material culture, interrogating the normative models of constructing religion through written rather than visual sources. Students will be encouraged to work from images as well as texts. The course is open to graduates as well as undergraduates, and will be taught in a speeded up form twice a week for the first five weeks of the quarter. Instructor(s): Jas Elsner Terms Offered: Spring

Equivalent Course(s): RLVC 41150

# ARTH 41203. Illuminating the Bible in Byzantium. 100 Units.

The main focus of this seminar will be the study of illustrated manuscripts of the Bible viewed within the larger framework of Byzantine book culture. More generally, students will gain insight into the history, methods and techniques of interdisciplinary research involving Greek (illuminated) manuscripts. We will investigate famous and less well-known examples to identify both the principles guiding Biblical illumination in Byzantium and topics in need of further research. In addition to printed facsimiles, we will take advantage of digitized material from various Greek manuscript collections. In order to appreciate the auratic qualities of original manuscripts and for a close-up investigation of their codicological features, we will view material preserved in the Goodspeed Manuscript Collection.

Instructor(s): Karin Krause Terms Offered: Spring

Equivalent Course(s): RLVC 41203, BIBL 41203

# ARTH 41313. Media Archeology vs. Media Aesthetics. 100 Units.

The course stages an encounter between media archeology and media aesthetics, two distinct but related research perspectives that are at times seen as incommensurable approaches to the media technological environment. Media archeology focuses on the non-human agencies and complex machinic arrangements that are at work in technologies whose microtemporal operations cannot be grasped by human perception: media archeology typically refuses phenomenological approaches. In contrast, media aesthetics focuses on the phenomenological interface between machine systems and human perception and sensation, and various forms of cultural and political negotiations of a lifeworld that is increasingly dominated by technologies that both store and produce time. We will read key texts from both fields and discuss how we may understand their differences as well as their points of intersection.

Instructor(s): I. Blom Terms Offered: Autumn

Note(s): Students must attend 1st class to confirm enrollment. Equivalent Course(s): CMST 47801

## ARTH 41315. Media Atmospheres: Art, Technology, and Environment in the 21st Century. 100 Units.

In the late 1990's and early 00's contemporary art seemed to turn towards design and architecture, leading many critics to claim that the boundaries between the practices of art and design were eroding. This course proposes a different line of inquiry, based on the fact that so many of the artworks in question were in fact hidden media machines, improvisations on a life environment increasingly suffused in the dynamics of networked media technologies and their various modes of time production and -control. Elements of design and architecture were in other words enlisted in the construction of what we may call media atmospheres, everyday sensorial surrounds that addressed the intimate integration of bodies and real-time technologies in the information economy, a new modality of the capture of life forces that Michel Foucault called biopolitics. The course will be oriented around a close study of a select number of artistic positions, in addition to reading theoretical and critical texts that are important to the artists in question as well as to the larger field of discussion. Ultimately, the course is about a form of new media at less invested in technical invention than in new aesthetic techniques of social/ environmental production.

Instructor(s): I. Blom Terms Offered: Autumn Equivalent Course(s): CMST 47815

## ARTH 41602. The Cult of Relics in Byzantium and Beyond. 100 Units.

The cult of relics played a vital role in Byzantine culture and, consequently, left a strong imprint on the artistic production. Not only did the veneration of relics find expression in personal devotion, but the image of the Byzantine court was largely modelled on the claim that the emperors possessed the most precious of all sacred remains, first and foremost those associated with the Passion of Christ and the Virgin Mary. The outstanding treasure of relics housed in the imperial palace significantly contributed to the understanding in the medieval Christian world of Constantinople as the "New Jerusalem." We will begin our investigation in the ancient Near East, where major centers of pilgrimage developed from the fourth century on. These sites considerably fueled the early Byzantine cult of relics and the associated artistic production. The chief focus of the seminar will be on the major urban centers of the Byzantine Empire, especially the capital city of Constantinople. We will closely study different types of reliquaries manufactured in the Byzantine Empire over the centuries and investigate how their design responded to devotional needs, ritual practice and political claims. Historical developments and primary texts (in English translation) will be eadressed throughout to better understand the circumstances of the acquisition of relics and the motivations guiding their veneration.

Instructor(s): Karin Krause Terms Offered: Spring

Equivalent Course(s): RLVC 41604, HCHR 41604

## ARTH 41750. The Sacred Gaze: Beholding as a Spiritual Exercise in the European Artistic Tradition. 100 Units.

This course spans the history of Western Art from the ancient Greeks to the Early Modern Period. It explores the sacred gaze, construed as a series of technologies for constructing the relationship between images and their viewers and as a key piece of social equipment for the ethopoiesis of the human subject. It asks how vision became the object of a moral discourse in Greco-Roman antiquity in both sacred and 'philosophical' contexts, and what happened to this problematic in the historical emergence and development of Christianity. We will do some comparative work on similar processes in relation to Buddhism. Drawing on ideas in the philosophical work of Michel Foucault, Pierre Hadot and Arnold Davidson, our hypothesis is that these issues precipitate in encounters with visual representations, such that the beholding of inter alia statues and paintings became a topic of concern, with the implication that a suitably attentive and informed study of those images will be informative for prehistorians of the aesthetic subject. Although the course will give weight to description and theological/philosophical investigation, the principal focus will be on objects themselves and their own material/visual articulation of the conditions of seeing.

Instructor(s): Ja# Elsner, Richard Neer Terms Offered: Spring Equivalent Course(s): RLVC 41750

#### ARTH 42205. The Holy Land in the Middle Ages. 100 Units.

This course will examine written and visual material that testifies to the medieval encounters of the Abrahamic religions in a sacred landscape where the histories of Jews, Christians, and Muslims overlap. While bearing witness to the cultural wealth and religious pluralism that characterize the Holy Land during the Middle Ages, texts and visual artifacts likewise testify to religious competition, conflict, loss, and exclusion. Among the primary textual sources we will read (in English translation) are accounts by pilgrims and other travelers to the Holy Land, extracts from medieval chronicles, and eyewitness accounts from the period of the Crusades. In addition to the textual material, we will study art and architecture created for different religious communities (e.g., synagogues and their richly decorated mosaic floors, sites and souvenirs of Christian pilgrimage, major works of Islamic art and architecture). We will also investigate phenomena of the reception of the Holy Land's sacred sites and dynamic history in medieval Europe (e.g., replicas and evocations of the Holy Sepulchre, narratives of the "Holy Grail" and associated artifacts).

Instructor(s): Karin Krause Terms Offered: Spring

Equivalent Course(s): HCHR 45200, RLVC 45200, ARCH 45200

## ARTH 42820. Ekphrasis. 100 Units.

What happens when a text gives voice to a previously mute art work? Ekphrasis - the verbal representation of visual art - continues to be a central concern of word and image studies today. The understanding of ekphrasis as an often hostile paragone between word and image exists alongside notions of a more reciprocal model involving a dialogue or "encounter" between visual and verbal cultures. The affective dimension of the relationship -- ekphrastic hope, ekphrastic fear -- has also been prominent in recent scholarship. Drawing on literary works and theories from a range of periods and national traditions, the course will examine the long history of ekphrasis. Why are certain literary genres such as the novel or the sonnet privileged sites for ekphrasis? How can art history inform our understanding of such encounters, and to what extent can we say that it is a discipline based in ekphrasis? What can we learn from current work on description, intermediality, narrative theory, and translation theory? Readings from Homer, Philostratus, Lessing, Goethe, Keats, A.W. Schlegel, Kleist, Sebald, Genette, among others.

Instructor(s): Catriona MacLeod Terms Offered: Winter Equivalent Course(s): GRMN 42820

# ARTH 42905. Modernism on the Margins. 100 Units.

This seminar explores approaches to modernism outside of the Euro-American tradition. Focusing primarily, but not exclusively, on Mexico and Brazil, we will attend to how both modern art and modernity have been conceptualized in the region by art historians, anthropologists, historians, and the artists themselves. Questions and themes to be explored include: the distinct relationships between modernism, modernity, and modernization outside of Europe, the applicability of postcolonial theory in Latin America, the temporality and teleology of modernism, the adaptation of European social, political, and artistic forms, the impact of postmodernism and globalization, and the potential dissonance between theories of peripheral or alternative modernisms and the practices of artists. Finally, we'll ask if and how any of this is pertinent in the twenty-first century. Authors to be studied might include Timothy Mitchell, Néstor García Canclini, Roberto Schwarz, Beatriz Sarlo, Enrique Dussel, Nelly Richard, Arjun Appardurai, George Yúdice, Ticio Escobar, and Eduardo Viveiros de Castro. Although we will concentrate on Latin America for most of the course, comparative studies from other regions will be included and research papers dealing with theories or practices from other world areas are welcome. Instructor(s): M. Sullivan Terms Offered: Spring

Equivalent Course(s): LACS 42905

## ARTH 42911. 21st Century Art. 100 Units.

This course will consider the practice and theory of visual art in the late twentieth and twenty-first centuries. Instructor(s): M.J. Jackson Terms Offered: Spring Equivalent Course(s): ARTV 39901

# ARTH 44002. COSI Objects & Materials Seminar. 100 Units.

Team-taught between Northwestern, the Art Institute of Chicago and University of Chicago, this course focuses on sustained, close engagement with art objects in the AIC collection and the methods and questions such inquiry raises. Students will be introduced to basic techniques of stylistic and scientific analysis as well as recent theoretical debates that resituate art history as a study of physical things as well as their disembodied images. Required for all first-vear art history graduate students.

Instructor(s): C. Brittenham Terms Offered: Winter

Note(s): Open to and required of first year art history PhD students only. This course will meet at the Art Institute of Chicago.

## ARTH 44013. Expanded Arts 1958-1978. 100 Units.

Equivalent Course(s): MAPH 44013

# ARTH 44014. The Veneration of Icons in Byzantium: History/Theory/Practice. 100 Units.

In order to appreciate the pivotal religious significance icons had in Byzantium for private devotion, in the liturgy, in civic ritual, and in military campaigns, we will survey the visual evidence along with a vast array of written sources. We will explore the origins of the Christian cult of icons in the Early Byzantine period and its roots in the Greco-Roman world of paganism. Through the close analysis of icons executed over the centuries in different artistic techniques, we will examine matters of iconography, style and aesthetics. We will also have a close look at image theory, as developed by Byzantine theologians and codified in the era of Iconoclasm.

Instructor(s): Karin Krause Terms Offered: Spring

Equivalent Course(s): RLST 28704, RLVC 44004, HCHR 44004, MDVL 28704, ARTH 24014

#### ARTH 44502. The Aesthetics of Socialist Realism. 100 Units.

Socialist Realism was declared the official mode of Soviet aesthetic culture in 1934. Though it has been dismissed within the totalitarian model as propaganda or kitsch, this seminar will approach it from the perspective of its aesthetics. By this we mean not only its visual or literary styles, but also its sensory or haptic address to its audiences. Our premise is that the aesthetic system of Socialist Realism was not simply derivative or regressive, but developed novel techniques of transmission and communication; marked by a constant theoretical reflection on artistic practice, Socialist Realism redefined the relationship between artistic and other forms of knowledge, such as science. Operating in an economy of art production and consumption diametrically opposed to the Western art market, Socialist Realism challenged the basic assumptions of Western artistic discourse, including the concept of the avant-garde. It might even be said to offer an alternate model of revolutionary cultural practice, involving the chronicling and producing of a non-capitalist form of modernity. The seminar will focus on Soviet visual art, cinema and fiction during the crucial period of the 1930s under Stalin (with readings available in translation), but we welcome students with relevant research interests that extend beyond these parameters. Conducted jointly by professors Robert Bird (Slavic and Cinemaand Media Studies, University of Chicago) and Christina Kiaer, Art History, Northwestern University, course meetings will be divided evenly between the campuses of Northwestern Univ, Socialist Realism was declared the official mode of Soviet aesthetic culture in 1934. Though it has been dismissed within the totalitarian model as propaganda or kitsch, this seminar will approach it from the perspective of its aesthetics. By this we mean not only its visual or literary styles, but also its sensory or haptic address to its audiences. Our premise is that the aesthetic system of Socialist Realism was not simply derivative or regressive, but developed novel techniques of transmission and communication; marked by a constant theoretical reflection on artistic practice, Socialist Realism redefined the relationship between artistic and other forms of knowledge, such as science. Operating in an economy of art production and consumption diametrically opposed to the Western art market, Socialist Realism challenged the basic assumptions of Western artistic discourse, including the concept of the avant-garde. It might even be said to offer an alternate model of revolutionary cultural practice, involving the chronicling and producing of a non-capitalist form of modernity. The seminar will focus on Soviet visual art, cinema and fiction during the crucial period of the 1930s under Stalin (with readings available in translation), but we welcome students with relevant research interests that extend beyond these parameters. Conducted jointly by professors Robert Bird (Slavic and Cinemaand Media Studies, University of Chicago) and Christina Kiaer, Art History, Northwestern Univ

Instructor(s): Robert Bird Terms Offered: TBD

Equivalent Course(s): CMST 44510, REES 36067, REES 36067, CMST 44510

## ARTH 44601. Medieval and Early Modern Naturalisms. 100 Units.

Art historical efforts at periodization in the west have often privileged definitions of art as the imitation of nature. Correspondingly, notions of mimesis, portraiture, and the 'real' have played determinate roles in identifying historical ruptures, from the Renaissance to postmodernism. This seminar will examine one such term and its place in debates about the art of medieval and early modern Europe: naturalism. Painters like Jan van Eyck and Albrecht Dürer created images that seemingly effaced distinctions between the world of the picture and the world of the viewer, and have thus long been understood to initiate a modern naturalistic paradigm. Examining theories of optical and philosophical naturalism advanced by thinkers from Aristotle to Alberti, we will see how artists negotiated the demands of patrons and spectators in order to redescribe the world. Turning to influential studies by scholars like Max Dvo#ák, Erwin Panofsky, and Svetlana Alpers, we will consider how such discourses of naturalism have served as a testing ground for art historical theory writ large. Students are encouraged to bring scholarly concerns about naturalism in their own subfields to bear on the course, and may write a final paper dealing with naturalism broadly construed.

Instructor(s): T. Golan Terms Offered: Autumn

Note(s): Students must attend 1st class to confirm enrollment. Undergrads and MAPH students must register with consent from instructor.

ARTH 44616. Music and Images, 1450 - 1650. 100 Units. Equivalent Course(s): MUSI 44616

#### ARTH 45002. Between Han and Tang: Funerary Art. 100 Units.

The period between the Han and Tang dynasties from the third to seventh centuries was a transformative era in the course of Chinese art. Funerary art, an indigenous art tradition with a long history traceable to prehistorical times, continued to evolve in a radically different cultural and religious environment. This course utilizes the newest archaeological evidence to explore multi-faceted developments of this art at this pivotal moment, including the formation of southern and northern styles and their interactions, the distinct funerary cultures of various ethnic groups and their artistic products, the impact of newly arriving Buddhism and Zoroastrianism, and the exchanges of mortuary customs with surrounding regions. Instructor(s): Wu Hung Terms Offered: Winter

Prerequisite(s): Chinese reading skill is required.

Note(s): Students must attend first class to confirm enrollment. Registration permitted by instructor consent only.

# ARTH 45885. Practices of Classicism in the French Seventeenth Century. 100 Units.

This seminar has two goals. One is to combine the text-based tradition of French literary studies with the image-based, comparative tradition of art history-and, in so doing, to change the taxonomies of both. The other is to re-evaluate French Classicism by attending to practices of reading, writing, performing, looking and making. The seminar's breadth is designed to appeal to all graduate students interested in the theory and history of aesthetics, and the interleaving of visual and literary evidence. Looking will be no less important than reading, as we will conduct sessions with original objects in the Art Institute and in Regenstein Special Collections. Authors studied will include Corneille, Molière, La Fontaine, Pascal, and Descartes; among the artists, Poussin, Claude Lorrain, La Tour, and Callot. Critical readings will range from Leo Spitzer to Louis Marin and Foucault. The seminar will be conducted in English; all primary texts will be made available in both English translation and, for those with reading knowledge, in the French original. This seminar will travel to Paris during exam week (March 13-21, 2020); airfare and lodging covered by university. Consent of instructors required. Instructor(6): Larry Norman and Richard Neer Terms Offered: Winter

Equivalent Course(s): FREN 34420, TAPS 44420, CMLT 44410, CDIN 44420

## ARTH 46005. Algorithms and Aesthetics. 100 Units.

This class will explore questions raised by the use of algorithms, and similar systemic processes, in the arts. Recent developments in computational tools have dramatically increased the availability, and complexity, of algorithmic methods. This seminar will reach back to examine cases-with and without electronic computation-over the last century in a range of artistic fields, including architecture, painting, sculpture, music, and literature. We will consider the challenges that algorithmic methods present for concepts such as authorship, intentionality, originality, meaning, beauty, taste, and art itself. Equivalent Course(s): CDIN 46005

## ARTH 46212. The Arabesque. 100 Units.

Focusing on the period from 1880-1914 in Europe, this seminar will examine creative practices and theoretical notions related to the arabesque and more generally, the decorative. Traditionally understood as highly stylized, vegetal ornament of Arabic origin, comprising interlacing designs without human figuration, the arabesque had often been used in European decorative borders since the Renaissance. By the end of the nineteenth century, however, the arabesque appeared at the center of all sorts of representational and abstract art that sought to break free of past conventions and material constraints. In the fin de siècle quest to bridge visual arts, music, poetry, and dance, among other forms of expression, the arabesque was held up across media as a singular ideal. But its meanings, origins and significance were subject to a wide range of interpretation and doubt. This seminar will explore the varied ends to which the arabesque was employed, as well as reservations about its ultimate value. Its place in articulations of primitivism and orientalism will be considered, along with new notions in the psychology of perception. While the focus will be on France, seminar participants will be welcomed to explore through their research projects developments in other geographical areas and chronological periods. Students will be expected to engage in a quarter long research project of their own devising and to help lead a class discussion. Instructor(s): M. Ward Terms Offered: Winter

Note(s): Students must attend first class to confirm enrollment. Registration permitted by instructor consent only.

## ARTH 46307. Medieval Scandinavia: Art, Architecture, & Artifacts. 100 Units.

This seminar will examine works of art, architecture and artifacts produced in Scandinavia from the early Middle Ages to the close of the medieval period. The seminar will not survey the rich and varied artistic production of medieval Scandinavian lands, but rather will focus on select works of architecture, art, as well as artifacts, in relation to recent scholarship, discoveries, and debates in the disciplines of art history, archaeology, material culture studies, and numismatics. In addition to assigned readings and seminar discussions, students will be expected to undertake intensive independent reading and research in preparation for a seminar trip to Norway, Sweden, & Denmark in the summer of 2020. Instructor(s): A. Kumler Terms Offered: Winter

Note(s): This is a traveling seminar and enrollment is limited. Registration by instructor consent only. All enrolled students must plan to participate in the seminar trip to Scandinavia in Summer 2020.

# ARTH 47211. What Was Mise-en-scène? 100 Units.

Mise-en-scène is often understood as a synonym for the act of directing, especially in theater. In film style it is associated with the importance accorded to the placement of props and characters within the film frame, usually in combination with camera movement. This concept was especially important in film criticism of the fifties and sixties and often connected with key post-WWII filmmakers such as Nicholas Ray, Douglas Sirk and Otto Preminger. This seminar will explore the concept both as historical critical concept, and as an ongoing way to discuss the nature of film style. Equivalent Course(s): CMST 67211

## ARTH 47219. The Romantic Book. 100 Units.

In his Gespräch über den Roman, Friedrich Schlegel declared programmatically: "Ein Roman ist ein romantisches Buch." The convoluted relationship between Roman and romantisch will give us the point of departure for the seminar - but is the third term, Buch, so obvious? We will thus also attempt to offer some definitions of what a book is in the period around 1800. To that end, we will consider works that reflect on Romantic scenarios of manuscript and book production (Schreibszenen) and collecting, as well as evolving forms of literary mixed media around 1800, such as the illustrated book and the Taschenbuch. Our readings will include works by F. Schlegel, A. W. Schlegel, Wackenroder and Tieck, Novalis, E. T.A. Hoffmann, Arnim and Brentano, the Grimms, Runge; and scholarly works by Kittler, Campe, Piper, Spoerhase, and others. The seminar will make use of the holdings of the Rare Book Collection and other area resources; and it will introduce students to working with material texts. Good reading knowledge of German required.

Instructor(s): Catriona MacLeod Terms Offered: Spring

Prerequisite(s): Good reading knowledge of German required.

Equivalent Course(s): GRMN 47219, SCTH 47219

## ARTH 47911. Art and Public Life. 100 Units.

The aim of this seminar-colloquium will be to work through some of the most advanced thinking on ideas about publics and their relation to questions of community, politics, society, culture, and the arts. From John Dewey through Hannah Arendt and Jurgen Habermas, the notion of the public has remained central to a wide variety of debates in the humanities and social sciences. What is a public? How are publics constituted? What is the role of real and virtual space, architectural design, urban planning, and technical media, in the formation of publics? And, most centrally for our purposes, what role can and do the arts play in the emergence of various kinds of publics? The colloquium aspect of the course will involve visiting speakers from a variety of disciplines, both from the University of Chicago faculty, and from elsewhere.

Instructor(s): W.J.T. Mitchell, T. Gates Terms Offered: Autumn Equivalent Course(s): CMST 37802, ENGL 32821, MUSI 35014, ARTV 37911

## ARTH 47920. Attention. 100 Units.

This reading-intensive seminar considers the use and disuse of attention in the study of culture. We will explore attention as a context for attitude, curiosity, distraction, fixation, ineptitude, interest, notice, Stimmung, and surprise. Students must attend the first class to confirm enrollment and registration will be permitted only by instructor consent.

Instructor(s): Darby English Terms Offered: Winter

Note(s): Students must attend the first class to confirm enrollment and registration will be permitted only by instructor consent.

# ARTH 48210. From Xi'an to Dunhuang: Following Buddhist Traces in Medieval China (UChicago/Getty Travel Seminar) 100 Units.

The majority of Buddhist traces in medieval China are found in the region along the ancient Silk Road between the Tang capital city, today's Xi'an, and the world-renowned Buddhist rock-cut cave site, Dunhuang. The surviving traces include Buddhist caves, monasteries, pagodas, tombs, and underground relic crypts. Many of the sites are well known and worth a revisit, while many others still await more scholarly attention and study. The three-week traveling seminar provides an opportunity for participants to investigate these Buddhist sites collectively, as well as artworks uncovered from them, tracing and mapping their historical, cultural, religious, and geographical relations, while studying their diverse artistic productions in different media (murals, sculptures, architecture), materials, and scales across different periods and regions. Guest speakers, including renowned Chinese scholars and local experts, will be invited to join each of the two parts of the three-week seminar in Xi'an and Dunhuang. Participants will also be asked to share their work and exchange ideas with scholars and students from local universities and research institutions.

Instructor(s): W. Lin Terms Offered: Autumn

Prerequisite(s): This is a traveling seminar; instructor consent is required for registration.

## ARTH 48301. Aesthetics of French Classicism. 100 Units.

Though "aesthetic" philosophy first developed as an autonomous field in the mid-eighteenth century, it has important roots in earlier eighteenth- and seventeenth-century debates concerning literature and the arts. In the wake of Cartesian rationalism, could reasoned method be reconciled with non-rational creativity, or decorous order with the unruly "sublime"? Just what kind of "truth" was revealed by poetry or painting? We will consider the relation between literature and other media (including music, opera, and the visual arts) and gauge the impact of French classical criticism on the broader European scene. Readings will include works by Descartes, Pascal, Boileau, Molière, La Fontaine, Félibien, Du Bos, Addison, Hutcheson, Vico, Montesquieu.

Instructor(s): L. Norman Terms Offered: Spring

Prerequisite(s): Undergrads admitted with permission of instructor.

Note(s): Course will be conducted in French; students not taking course for French credit may do written work and class presentations in English.

Equivalent Course(s): REMS 37000, CMLT 38600, FREN 37000, SCTH 37000

# ARTH 48809. Trompe l'oeil: Cognition and Depiction in Western Painting. 100 Units.

This course offers a focused examination of trompe l'oeil, a category of painting that is typically associated with the aims of illusion or deception. Yet who, or rather what set of criteria, adjudicates what counts as an illusion or deception in the first place? Indeed, why are illusion or deception even the appropriate or operative terms here? And how might we begin to attend in an historical fashion to the phenomenological question of how human agents, whether in the distant or even the more recent past, saw such pictures as pictures? For many art historians as well as philosophers and anthropologists of art, the historical emergence of trompe l'oeil constitutes a somewhat paradoxical phenomenon. On one hand, it counts as evidence for a natural-historical revolution in human depictive practices and cognition; on the other, it is an extreme, essentially transhistorical case of picture-making and perception. We will look at works spanning from ancient Roman wall-painting to Dutch Golden Age still life to the immersive environments of contemporary art through various methodological approaches including the philosophy and psychology of depiction, psychoanalysis, ethology (the study of animal behavior), and so-called "neuroarthistory."

Instructor(s): P. Crowley Terms Offered: Winter Equivalent Course(s): KNOW 48809

## ARTH 48905. Style and Performance from Stage to Screen. 100 Units.

Actor is the oldest profession among arts. Cinema is the youngest art there is. What happens with faces, gestures, monologues, and voices; ancient skills like dance or mime; grand histroincis etc. when arts of performance hit the medium of screen? This course will focus on the history of acting styles in silent films, mapping "national" styles of acting that emerged during the 1910s (American, Danish, Italian, Russian) and various "acting schools" that proliferated during the 1920s ("Expressionist acting," "Kuleshov's Workshop," et al.). We will discuss film acting in the context of various systems of stage acting (Delsarte, Stanislavsky, Meyerhold) and the visual arts.

Equivalent Course(s): CMST 68400

# ARTH 49700. The Archive: Materiality, Aesthetics, Visual Culture. 100 Units.

In this research-intensive graduate seminar, students will engage with a range of methods, questions, and approaches to conducting archival research in filmic, paper and print, and internet databases, and in both American and foreign contexts. While some class content will unfold around archival materials related to French film and art practice between 1930-1950, and to the discursive transformations around concepts of materiality and visual aesthetics therein, we will also explore a range of texts on archival methodology; selected texts on archival theory; and case-studies foregrounding modes of archival discovery, evaluation, and interpretation. With the aim of training students for  $\hat{a} \in \alpha deep$  dive $\hat{a} \notin \#$  explorations of material and visual culture, students will be expected to conduct original research on a topic of their own design beginning in week 2. To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research. Proposals should be sent to jenniferwild@uchicago.edu at least 2 weeks prior to spring quarter 2016.

## Instructor(s): Jennifer Wild Terms Offered: Winter

Note(s): To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research.

Equivalent Course(s): CMST 69110, FREN 49100

#### ARTH 49800. Independent Research: Art. 100 Units.

Individualized study focused on PhD research in Art History. This course can also be used as the preliminary exam reading course.

Instructor(s): Staff Terms Offered: Autumn Spring Winter

#### ARTH 49808. Qualifying Paper Course I. 100 Units.

Individualized study for Art History students working on their Qualifying Paper; first of two quarters. Instructor(s): Staff Terms Offered: Autumn,Spring,Winter

## ARTH 49809. Qualifying Paper Course II. 100 Units.

Individualized study for Art History students working on their Qualifying Paper; first of two quarters. Instructor(s): Staff Terms Offered: Autumn,Spring,Winter

## ARTH 49820. Preliminary Exam Reading Course. 100 Units.

Individualized study for Art History students working on their Preliminary Exams. Instructor(s): Staff Terms Offered: Autumn Spring Winter

## ARTH 50100. Teaching Colloquium. 100 Units.

### ARTH 50101. Teaching Colloquium. 100 Units.

Led by a faculty member each fall, this seminar meets weekly for 80 minutes, to address various topics through discussion with visitors (especially department faculty members) and occasionally through discussion of assigned readings. On the premise that one learns the most about teaching not well in advance but rather by reflecting with peer and senior colleagues on techniques and problems when one is in the midst of the challenge, this forum is meant to address participants' specific concerns and experiences, especially those related to art history. The quarter's topics are determined with student input and may include: the structure of the art history college core course program in which all faculty and students teach; the jobs of course assistant and writing intern; instructor authority and classroom dynamics; leading discussion; effective lecturing; strategic use of pictures in classroom teaching; small-group class projects; designing and grading assignments; designing syllabi. From year to year, the colloquium may address similar topics but the emphasis and tips will change depending on the participants. The department requires third-year students to participante fully in the colloquium, register for credit, and earn a Pass. More advanced students who have previously taken the colloquium are welcome to return on an occasional or regular basis to share experiences, strategies, and to seek advice on new teaching challenges.

Instructor(s): TBD Terms Offered: Autumn

Note(s): Required of all third year ARTH PhD students.

# ARTH 50200. Dissertation Workshop. 100 Units.

This course is conducted by a faculty member every spring to introduce third-year students to the tasks of preparing grant proposals and applications. The aim of the workshop is to help you produce a finished dissertation proposal by the early autumn of your fourth year and to prepare you to apply for grants at that time. The department requires third-year students to participate fully in the workshop, register for credit, and earn a Pass.

Instructor(s): TBD Terms Offered: Spring

Note(s): Open to third year art history PhD students only.

# ARTH 50400. Logic, Truth, and Pictures. 100 Units.

The course aims at the logic of pictures, but because it is controversial whether such a topic exists, or should exist at all (some arguing that pictures are alogical, others that they require a logic sui generis), the course will be less a primer in "visual logic" or "logic of artifacts" than a preliminary investigation of what sets pictures apart from and how they are like other modes of thinking. Resemblance, reference, and fiction will be recurring topics; we begin with questions about the nature and peculiarity of pictures and move on to the prospects of arguing about and through pictures, concluding with the questions of their relation to truth. We will actually look at pictures besides talking about them. We will also ask what kind of objects beside conventional two-dimensional images and sculptures might usefully be called pictures. Reading will include classics (Plato, Gombrich), as well as some of the instructor's own work in progress, based on the ideas of Gottlob Frege.

Equivalent Course(s): SCTH 50400

ARTH 70000. Advanced Study: Art History. 300.00 Units. Advanced Study: Art History



# Department of Cinema and Media Studies

## Department Website: http://cms.uchicago.edu

Core Faculty

## Department Chair - Daniel Morgan

Director of Graduate Studies - Allyson Nadia Field, Associate Professor

Director of Undergraduate Studies - Salomé Skvirsky, Associate Professor

# Professors

- Robert Bird
- James Chandler
- Thomas Lamarre
- David Levin
- Richard Neer
- D.N. Rodowick
- Jacqueline Stewart

Associate Professors

- Maria Belodubrovskaya
- Patrick Jagoda
- Kara Keeling
- Rochona Majumdar
- Daniel Morgan
- Jennifer Wild
- Salomé Skvirsky

Professor of Practice in the Arts

Judy Hoffman

Lecturers

- Dominique Bluher
- Marc Downie
- Thomas Comerford

Visiting Faculty & Associated Fellows

- Nicholas Baer, Society of Fellows and Collegiate Assistant Professor
- Steffen Hven, Post-Doctoral Fellow Volkswagen Stiftung Fellowship
- Gabriel Tonelo, Post-Doctoral Fellow Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)

# Affiliated Faculty

- Lauren Berlant, Department of English Language and Literature
- James Conant, Department of Philosophy
- Berthold Hoeckner, Department of Music
- Paola Iovene, East Asian Languages and Civilizations
- Loren Kruger, Department of English Language and Literature
- Laura Letinsky, Department of Visual Arts
- Constantine Nakassis, Department of Anthropology
- Robert Pippin, Department of Philosophy
- Malynne Sternstein, Department of Slavic Languages and Literature
- Catherine Sullivan, Department of Visual Arts

# Emeritus Faculty

- Tom Gunning
- Yuri Tsivian
- Rebecca West

#### Staff

- Traci Verleyen Hope, Department Administrator
- Shekinah Thornton, Department Assistant

The Department of Cinema and Media Studies offers a PhD program that focuses on the history, theory, and criticism of film and related media. Faculty are drawn from a wide range of departments and disciplines, primarily in the humanities. In addition to offering its own doctoral degree, the department offers courses and guidance to students who specialize in film and related media within other graduate programs or who pursue a joint degree.

Centering on the cinema, the graduate program provides students with the critical skills, research methods, and an understanding of the debates that have developed within cinema studies as a discrete discipline. At the same time, the study of cinema and related media mandates an interdisciplinary approach in a number of respects. The aesthetics of film is inextricably linked to the cultural, social, political, and economic configurations within which the cinema emerged and which it in turn has shaped. Likewise, the history of the cinema cannot be separated from its interaction with other media. Just as it is part of a wholly new culture of moving images and sounds that includes television, video, and digital technologies, the cinema draws on earlier practices of instantaneous photography and sound recording and, in a wider sense, those media that are more often described as the fine arts (painting, sculpture, architecture, literature, theater, and music). Finally, the interdisciplinary orientation of the program entails an emphasis on the diversity of film and media practices in adifferent national and transnational contexts and periods and thus an understanding of the cinema as a historically variable and rich cultural form.

The Film Studies Center, located on the third floor of Cobb Hall, serves as a resource for course related and individual research and as a forum for cinema and media related activities.

#### The Degree of Doctor of Philosophy

Students are expected to complete seventeen courses during their course of study, of which a minimum of twelve have to be listed among the offerings of the Department of Cinema and Media Studies. Courses must be taken for a quality letter grade; pass/fail is not an option (with the acceptance of CMST 69900 Pedagogy).

- 1. Four (4) required courses originating in the department:
  - CMST 40000 Methods and Issues in Cinema Studies: an introduction to research methods, key concepts, and theoretical frameworks, using case studies to introduce students to debates and issues in the field; offered during Autumn Quarter each year.
  - CMST 48500 History of International Cinema I: Silent Era, and CMST 48600 History of International Cinema II: Sound Era to 1960: a two-quarter survey course that is designed as both a beginning-level graduate and an upper-level undergraduate course; offered in Autumn Quarter [Part I] and Winter Quarter [Part II] each year.
  - CMST 69900 Pedagogy: The Way We Teach Film: an introduction to pedagogical methods in the field of Cinema and Media Studies. This course takes place over the course of one (1) full academic year, meeting roughly three to four times per quarter; offered in alternating academic years for students in years 2 and year 3 of the PhD program.
- Five (5) elective courses that either originate in or are cross-listed with the Department of Cinema and Media Studies. Only courses with a CMST cross-list can count towards this requirement, even if the course is taught by a CMS faculty member through another department. These courses should ideally fit into the overarching research goals of the student.
- Three (3) advanced-level CMS seminars (600-level) graduate seminars taught by CMS faculty are the only courses which receive a 600-level designation. CMST 69900: Pedagogy does not count towards the advanced course requirement.
- 4. Five (5) elective courses that can originate in other departments and may or may not cover cinema related subjects. Students should use this coursework requirement to work with faculty members outside of CMS and add interdisciplinary elements to their own scholarship.

Please note that language courses are not counted towards fulfilling coursework requirements.

## Students Who Enter with an MA

PhD students entering the department with a master's degree from another institution (or from within the University of Chicago via the MAPH program) may request to be exempt from some coursework requirements. Such requests are handled on a case-by-case basis, but students may not receive a waiver for more than three (3) courses. Students must show the relevance of a course in the field of cinema studies in order to qualify for such an exemption. Courses should be graduate level only - undergraduate courses will not be acceptable. To request a coursework waiver, students should send an email to the DGS and include the syllabus for each course and transcripts showing the grade earned by the student. If a waiver is approved by the DGS, the student will be informed directly.

# Foreign Language Requirement

Given the highly international nature of the field of cinema and media studies, students must demonstrate proficiency in two (2) modern foreign languages by earning High Passes ('P+') on the University's Foreign Language Reading Examinations. The first of these languages must be either French or German, and proficiency should be demonstrated by the end of Autumn Quarter in year 2 of the PhD program. The second language will be chosen in consultation with the DGS, and proficiency must be demonstrated before the student will be permitted to take their fields examinations.

Students may also fulfill language requirements by receiving an A or A- grade in a one-quarter graduate course - FREN 33333 or GRMN 33300 for example. Completion of the course with a grade of A or A- means the students does not need to take a language examination.

Students who are native-speakers of a language other than English should consult with the DGS during their first year in the program whether a waiver of a language requirement is possible.

#### Oral Fields Examinations

By the end of their third year in the program, students should have taken their Oral Field Examinations. All coursework and foreign language requirements must be completed prior to taking the oral fields examinations. The purpose of this examination is to ascertain a student's readiness to proceed from advanced formal coursework to devising a dissertation project, and ensure that a student has sufficient command of several fields to teach and to generate new research projects. It is expected that student produce written exams that are argument-driven - one that draws on and is informed by each of their fields lists.

• The exam is comprised of five parts - three (3) written exams (one for each list), a syllabus for an undergraduate course of 10 weeks based on one or more field lists, and an oral exam. The essays are not meant to be a literature review or an exhaustive account of all of the material on the list.

The student will select an exam committee consisting of three faculty members in the relevant fields in consultation with the DGS, keeping in mind that two members of the exam committee must be CMS faculty.

#### Graduate Teaching - Pedagogical Training Plan (PTP)

Teaching obligations are integral to preparing students for the world of professional academic, enabling students to begin teaching before starting professional careers. Teaching in the department, whether as a course assistant (CA) or Lecturer count towards fulfillment of the PTP. Teaching outside of the department to meet PTP expectations - especially to fulfill teaching obligations in a joint-degree program - must be approved by the DGS, and the department will anticipate a student completing their teaching commitments in CMS unless informed otherwise. The DGS might recommend deferring teaching commitments depending on a student's academic standing in the program. CMS BA Preceptors may be used to fulfill PTP requirements on occasion and only with departmental approval.

Further information on teaching in CMS can be found in the Graduate Student Handbook (https://wiki.uchicago.edu/display/DeptCMS/Graduate+Student+Handbook/?preview=/185011332/185011337/CMS %20Graduate%20Student%20Handbook%202017-2018.pdf).

#### Fellowships

Students who matriculate beginning in Summer 2020 and after will be guaranteed to have funding support from the University of Chicago, external sources, or a combination of the two for the duration of their program. Students are expected to remain in good academic standing and continue making progress towards degree requirements. This support will include full tuition coverage, annual stipend, and fully paid individual annual premiums for UChicago's student health insurance.

Information on funding will be continually updated through the Humanities Division website in the Financial Aid section (http://humanities.uchicago.edu/students/financial-aid/). For information regarding fellowships outside of the standard admissions package, please visit the Internal Fellowship section (http://humanities.uchicago.edu/students/financial-aid/fellowships/internal-fellowships/) on the Humanities Division site.

#### The Dissertation Proposal and Reaching Candidacy

In order to be admitted to candidacy, students must write a dissertation proposal under the supervision of their dissertation committee. Students are expected to reach candidacy in year 3 or 4, and must have reached candidacy by the start of year 6 (please check with Department Staff for specific details).

#### Dissertation Defense and Graduation

Upon completion of the dissertation, the student will defend it orally before the members of the dissertation committee, the Cinema and Media Studies faculty, and their colleagues in the PhD program. Once the dissertation is approved by the student's committee, the student is eligible to graduate.

## The Degree of Master of Arts

Students seeking master's level study should apply to the Master of Arts Program in the Humanities (https:// maph.uchicago.edu/) (MAPH); a three-quarter program of interdisciplinary study. Students build their own curriculum with graduate-level courses in any humanities department. Students choosing to focus in Cinema and Media Studies would take courses within the department and complete their thesis with a faculty advisor.

# Graduate Courses in Cinema and Media Studies

## CMST 30605. Queer and Trans Cinema and Media. 100 Units.

In this course we explore the history of queer and transgender cinema and media in an effort to situate new developments in queer and trans cinema and media making. We will consider relevant theories about gender and sexuality and their implications for our categories of film and media analysis.

Instructor(s): Kara Keeling Terms Offered: Spring

Equivalent Course(s): MAAD 10605, CMST 20605, GNSE 30107, GNSE 20107

### CMST 30904. Media Wars. 100 Units.

Media practices and discourses evoking war or violence are common today, such as the 'weaponization' of social media; 'cyber warfare' and attacks; 'online battlefields;' 'guerilla' media tactics; 'The Great Meme War' and 'Infowars.com,' to name a few. In relationship with terms suggesting that we live in an age of 'post-truth' dominated by 'fake news' or 'factchallenged' journalism, the media wars of today may seem unique to the twenty-first century. But in fact, the history of the use of media to either combat or spread ideas dates back centuries to the earliest phases of mass media and communication. In this class, we will proceed historically, broadly conceiving of media to include print and visual, cultural, and artistic forms, cinema, television, and the internet. While we will explore how media have historically been used to construct or counter dominant systems of representation, we will also discuss how different media forms function formally, learning to analyze how they construct discourses of truth as texts (documentary; propaganda). This class will also function as a contemporary research laboratory where students will be asked to track, evaluate, and theorize contemporary or historical media that are taking part in a so-called 'media war.'

Instructor(s): Jennifer Wild Terms Offered: Spring

Note(s): Please note: Students who have previously completed the course "Problems in the Study of Gender and Sexuality: Media Wars" are not eligible to receive credit for this class.

Equivalent Course(s): GNSE 20114, CMST 20904, MAAD 10904, SIGN 26061, GNSE 30114

## CMST 31703. Weimar Cinema. 100 Units.

German films between the end of World War I and the establishment of the Third Reich in 1933 are extraordinarily eclectic and intensely inventive, encompassing horror film, socially conscious dramas, expressionist fantasies, experimental documentary, early proto-fascist and anti-fascist films, and that ur-German invention, the mountain film. We will consider some of the most important works of the period, including films by Fritz Lang, Ernst Lubitsch, G.W. Pabst, F.W. Murnau, Arnold Fanck, Walter Ruttmann, and Josef von Sternberg, examining their context, style, reception, formal achievements and historical significance.

Instructor(s): David Levin Terms Offered: Spring

Equivalent Course(s): GRMN 27710, GRMN 37710, CMST 21703

## CMST 32119. Richard Wagner's Ring of the Nibelung in Performance. 100 Units.

This seminar, open to undergraduates and beginning graduate students, serves as a critical introduction to and intensive exploration of Richard Wagner's 19th century tetralogy. In addition to critical readings (e.g., by Wagner, Adorno, Nietzsche, Badiou, Dahlhaus, et al.) and screenings of a host of productions, we will travel downtown to Lyric Opera to attend performances of the Ring cycle in David Pountney's new production. Our discussions of the Chicago production will be supplemented by conversations with members of the Lyric Opera production team, including Anthony Freud, Lyric Opera's General Director. No previous knowledge is required although a curiosity about opera, German culture, media history, and/ or theater & performance studies will be essential.

Instructor(s): David Levin Terms Offered: Spring

Equivalent Course(s): GRMN 33419, TAPS 36519, FNDL 23419, GRMN 23419, TAPS 26519, CMST 22119, MUSI 32520, MUSI 24520

## CMST 32235. Revolutionary Romance in Socialist China. 100 Units.

One of the goals of the socialist revolution was to transform social relations, not only those between classes but also family and romantic relations. One of the first laws that the Chinese Communist Party issued after the founding of the People's Republic was the New Marriage Law, which banned arranged marriages, concubinage, and arrangements involving minors. 1950s cinema and literature advertised romantic love as an important achievement of the new society. At the same time, loyalty to the Party and to the collectivity were also core values that the media emphasized. In this class, we will look at how literature and cinema instructed viewers on how to select one's object of love in Revolutionary China, and how love for a romantic partner, for the party, and for the people were differently foregrounded at specific historical moments. How did ideas of romantic love change from the 1940s to the 1980s, and how dic cinema contribute to promoting them? What forms of intimacy and models of attachment characterized revolutionary romance? Which kind of person constituted an ideal romantic partner? Who was to be loved, how, and why? Should one orient one's passion toward one person, many, or none? Instructor(s): P. Iovene Terms Offered: Winter

Equivalent Course(s): GNSE 32235, GNSE 22235, EALC 22235, CMST 22235, EALC 32235

# CMST 33030. The Italian Cinematographic Comedy. 100 Units.

An important genre in Italian cinema is represented by the 'commedia,' in particular the declination 'all'italiana.' It is a very original form of representation of the world invented by Italian cinema. The comedy genre has marked many decades of Italian cinematography: from the plot comedies of the Fifties (going back until the Thirties) with films like 'Due soldi di speranza' (1952) by Renato Castellani, to the grotesque comedy of masks of the Sixties, with authors such as Dino Risi ('II sorpasso,' 1962, 'I mostri,' 1963), Mario Monicelli ('La Grande Guerra,' 1959) and Pietro Germi ('Divorzio all'italiana,' 1961, 'Sedotta e abbandonata,' 1964), up to the dominance of the grotesque representation of the world, with authors such as Elio Petri ('Indagine su un cittadino al di sopra di ogni sospetto,' 1972). The heritage of the commedia all'italiana can be found in contemporary Italian cinematographic modernity - starting from neorealism and up to comedy and author cinema - in one of the most effective ways. The Italian cinematographic comedy is also rooted in the Italian literary tradition, in the masks of 'commedia dell'arte,' and generally speaking in the different aspects of grotesque tradition (as analyzed by Bachtin). Instructor(s): R. De Gaetano Terms Offered: Spring

Note(s): Taught in English.

Equivalent Course(s): CMST 23030, ITAL 23020, ITAL 33020

## CMST 33500. Pasolini. 100 Units.

This course examines each aspect of Pasolini's artistic production according to the most recent literary and cultural theories, including Gender Studies. We shall analyze his poetry (in particular 'Le Ceneri di Gramsci' and 'Poesie informa di rosa'), some of his novels ('Ragazzi di vita,' 'Una vita violenta,' 'Teorema,' 'Petrolio'), and his numerous essays on the relationship between standard Italian and dialects, semiotics and cinema, and the role of intellectuals in contemporary Western culture. We shall also discuss the following films: 'Accattone,' 'La ricotta,' 'Edipo Re,' 'Teorema,' and 'Salo'. Instructor(s): A. Maggi Terms Offered: Winter

Equivalent Course(s): ITAL 28400, CMST 23500, FNDL 28401, GNSE 28600, ITAL 38400

## CMST 33930. Documentary Production I. 100 Units.

Documentary Video Production focuses on the making of independent documentary video. Examples of various modes of documentary production will be screened and discussed. Issues embedded in the genre, such as the ethics, the politics of representation, and the shifting lines between 'the real' and 'fiction' will be explored. Story development, pre-production strategies, and production techniques will be our focus, in particular-research, relationships, the camera, interviews and sound recording, shooting in available light, working in crews, and post-production editing. Students will work in crews and be expected to purchase a portable hard drive. A five-minute string-out/rough-cut will be screened at the end of the quarter. Students are strongly encouraged to take Doc Production 2 to complete their work.

Instructor(s): J. Hoffman Terms Offered: Autumn

Note(s): Prior or concurrent enrollment in CMST 10100 recommended for undergraduate students. Equivalent Course(s): ARTV 23930, ARTV 33930, MAAD 23930, HMRT 25106, HMRT 35106, CMST 23930

## CMST 33931. Documentary Production II. 100 Units.

Documentary Video Production II focuses on the shaping and crafting of a non-Fiction video. Enrollment will be limited to those students who have taken Documentary Production I. The class will discuss issues of ethics, power, and representation in this most philosophical and problematic of genres. Students will be expected to write a treatment outline detailing their project and learn about granting agencies and budgeting. Production techniques will concentrate on the language of handheld camera versus tripod, interview methodologies, microphone placement including working with wireless systems and mixers, and lighting for the interview. Post-production will cover editing techniques including color correction and audio sweetening, how to prepare for exhibition, and distribution strategies.

Instructor(s): J. Hoffman Terms Offered: Winter

Prerequisite(s): CMST 23930, HMRT 25106, or ARTV 23930

Equivalent Course(s): CMST 23931, ARTV 33931, HMRT 25107, ARTV 23931, MAAD 23931, HMRT 35107

## CMST 34201. Cinema in Africa. 100 Units.

This course examines Africa in film as well as films produced in Africa. It places cinema in Sub Saharan Africa in its social, cultural, and aesthetic contexts ranging from neocolonial to postcolonial, Western to Southern Africa, documentary to fiction, art cinema to TV, and includes films that reflect on the impact of global trends in Africa and local responses, as well as changing racial and gender identifications. We will begin with La Noire de... (1966), by the 'father' of African cinema, Ousmane Sembene, contrasted w/ a South African film, African Jim (1960) that more closely resembles African American musical film, and anti-colonial and anti-apartheid films from Lionel Rogosin's Come Back Africa (1959) to Sarah Maldoror's Sambizanga, Sembene's Camp de Thiaroye (1984), and Jean Marie Teno's Afrique, Je te Plumerai (1995). The rest of the course will examine 20th and 21st century films such as I am a not a Witch and The wound (both 2017), which show tensions between urban and rural, traditional and modern life, and the implications of these tensions for women and men, Western and Southern Africa, in fiction, documentary and fiction film. (20th/21st)

Instructor(s): Loren Kruger Terms Offered: Spring

Prerequisite(s): One or more of the following: Intro to Film/ International Cinema AND/OR Intro to African Studies or equivalent

Note(s): This course also includes a weekly screening section.

Equivalent Course(s): CRES 24201, CRES 34201, CMST 24201, GNSE 28602, ENGL 27600, CMLT 22900, ENGL 48601, ENGL 47600, GNSE 48602, CMLT 42900

## CMST 34531. Cowboy Modernity. 100 Units.

This course examines the western movie genre through the lens of what is thought of as the cinema's special relationship to and place within twentieth century modernity. From the beginnings of narrative cinema through the 1960s, more westerns were made than any other genre, and the iconography and ideology of the western influenced not only other film genres but also spilled over into other aspects of popular culture and even high art. Why was the cinema, the medium that exemplified modernity for so many people around the world, dominated by westerns, a genre set in the past and in the wilderness? How did the western manifest aspects, anxieties, possibilities, and widespread phenomena of twentieth century modernity? We will examine the western's intersection with modern phenomena, activities, and artforms including tourism, abstract expressionism, feminism, the Baby Boom & television, toys, mining and atomic energy and weapons, and the rise of Las Vegas as a hub for recreational gambling.

Equivalent Course(s): CMST 24531, MAPH 35514

## CMST 34568. The Underground: Alienation, Mobilization, Resistance. 100 Units.

The ancient and multivalent image of the underground has crystallized over the last two centuries to denote sites of disaffection from-and strategies of resistance to-dominant social, political and cultural systems. We will trace the development of this metaphor from the Underground Railroad in the mid-1800s and the French Resistance during World War II to the Weather Underground in the 1960s-1970s, while also considering it as a literary and artistic concept, from Fyodor Dostoevsky's Notes from the Underground and Ellison's Invisible Man to Chris Marker's film La Jetée and Andrei Tarkovsky's Stalker. Alongside with such literary and cinematic tales, drawing theoretical guidance from refuseniks from Henry David Thoreau to Guy Debord, this course investigates how countercultural spaces become-or fail to become-sites of political resistance, and also how dissenting ideologies give rise to countercultural spaces. We ask about the relation between social deviance (the failure to meet social norms, whether willingly or unwittingly) and political resistance, especially in the conditions of late capitalism and neo-colonialism, when countercultural literature, film and music (rock, punk, hip-hop, DIY aesthetics etc.) get absorbed into-and coopted by-the hegemonic socio-economic system. In closing we will also consider contemporary forms of dissidence-from Pussy Riot to Black Lives Matter-that rely both on the vulnerability of individual bodies and global communication networks.

Instructor(s): R. Bird Terms Offered: Spring

Equivalent Course(s): SIGN 26012, CMST 24568, REES 36068, REES 26068

## CMST 34607. Chinese Independent Documentary Film. 100 Units.

This course explores the styles and functions of Chinese independent documentary since 1989, with particular attention to the social and political contexts that underpin its flourishing in Mainland China and Taiwan. We will discuss the ways in which recent Chinese documentaries challenge current theories of the genre, how they redefine the relationship between fiction and non-fiction, and the problems of media aesthetics, political intervention, and ethics of representation that they pose. We will look at their channels of circulation in Asia and elsewhere, and will discuss the implications and limits of the notion of independence. Readings will include theorizations of the documentary genre in relation to other visual media and narrative forms, analyses of specific works, and discussions on the impact of digital media.

Instructor(s): P. Iovene Terms Offered: Spring

Equivalent Course(s): EALC 24607, CMST 24607, EALC 34607

## CMST 35514. Symbolism and Cinema. 100 Units.

In his 1896 essay on cinema, Russian writer Maxim Gorky described the new medium to 'madness or symbolism.' The connection between cinema and symbolism was not surprising insofar as symbolism was a dominant aesthetic paradigm throughout Europe at the time. However it does suggest (perhaps surprisingly) that from the very beginning cinema was seen as a means of visualizing the non-rational, uncanny and even invisible. This course examines the relationship between symbolism and cinema with particular attention to French and Russian writings and films. Examining how symbolist aesthetics became applied to the cinematic medium, we will pay particular attention the resources it provided for conceptualizing the uncanny and the mystical. We will question whether there exists a distinct symbolist tradition in film history and how it relates to notions of poetic or experimental cinema. Films will represent a broad cross-section of European (and some American) cinema, from Jean Epstein to Sergei Eisenstein and Alexander Dovzhenko, and from Stan Brakhage to Andrei Tarkovsky.

Instructor(s): R. Bird

Equivalent Course(s): REES 36019, CMST 25514, REES 26019

## CMST 35600. Magic and the Cinema. 100 Units.

This course will trace relations between motion pictures and traditions of magic, both as a theatrical entertainment and as a belief system. The invention of cinema's roots in the magic lantern and other 'philosophical toys' which trick the senses into seeing visual illusions will be explored in relation to traditions of 'Natural Magic' as well as a secularization of magical practices into entertainment from the Renaissance on. The early trick films of Mcliès and others will be discussed in relation to the tradition of stage magic in the 19th century, as well as a particular reception of the magical nature of new technologies (electricity, photography, sound recording). The relation between cinema and hypnosis, both as a social concern and as metapsychological description of spectatorship will also be explored. A consideration of the appeal of magic systems of thought (spiritualism, theosophy, ritual magic) for Avant-Garde movement and their relation to experimental films by Epstein, Artaud, Deren, Anger, Smith, Fischinger, and others.

Equivalent Course(s): ARTH 26200, CMST 25600, ARTH 36200

# CMST 36210. XCAP: Food for Thought. 100 Units.

If anthropology and contemporary art have one thing in common, it is the aim to de-familiarize taken-for-granted ways of being in the world by means of ethnographic comparison or aesthetic provocation so as to open up new perspectives on the complexities of human social life. Co-taught by an artist and an anthropologist, this course considers what's at stake when contemporary artists build on this longstanding practice to explore the complexities of current societal, political, and cultural contexts.

Instructor(s): Laura Letinsky & Stephan Palmié Terms Offered: Autumn

Note(s): for 3rd and 4th year students only

Equivalent Course(s): ARTV 26210, ANTH 35315, ARTV 36210, KNOW 29942, CMST 26210, ARTH 29942, ANTH 25315

## CMST 36403. Post WWII American Mise en Scene Directors. 100 Units.

This course will treat the style of a number of American Hollywood feature film directors during the two decades after World War II, including Nicholas Ray, Anthony Mann, Otto Preminger, and others. These directors were singled out at that time by the critics writing for the French journal Cahiers du Cinema as auteurs, directors with a consistent style. Critics in France, England, and the USA used the term mise en scene to discuss their use of framing, performance, editing, and camera movement and especially their use of new technologies such as wide screen and color. This course will explore the concept of directors' style as well as the mode of close analysis criticism that grew out of this concept.

Equivalent Course(s): CMST 26403, AMER 26403

# CMST 36405. D.W. Griffith. 100 Units.

Controversies fuel American politics and culture. One hundred years ago, Intolerance shook the world, if not the most famous, then the most the most expensive and seminal movie ever made. One hundred and one, The Birth of a Nation generated the loudest controversy on the issue of race; at the same time, its powerful suspense sequence in the finale made this movie a fundamental of action-movie filmmaking for the century to come. Griffith came to movie industry in 1908 and dropped out of it in 1931. This course offers a quarter-of-a-century vast panorama of inventions and innovations, shames and triumphs, brilliant successes and spectacular failures connected with D.W. Griffith, the most famous pioneer in the history of film.

Equivalent Course(s): AMER 36405, AMER 26405, CMST 26405, FNDL 26405

## CMST 36500. The Films of Alfred Hitchcock. 100 Units.

This course focuses on the films of Alfred Hitchcock, one of the greatest filmmakers of the 20th century. We study both his films and a variety of approaches to them. We investigate the enduring power of his movies; his contributions to genre and popular cinema; his storytelling techniques; his stylistic command; his approach to romance, suspense, and action; his status as a master and auteur; and his remarkable control over the audience's thoughts and feelings. Equivalent Course(s): ARTH 28405, FNDL 26510, CMST 26500, ARTH 38405

## CMST 36603. The Cinema of Miloš Forman. 100 Units.

The films of Miloš Forman (1932-2018) reflect the turbulence of the 1960s, '70s, '80s and '90s, and 2000s by focusing on the underdog, the pariah, the eccentric. The subject matter to which Forman was drawn translated into his cinema with a signature bittersweet tone, emphatic narrative cogency, and lush spontaneity. This course is an intensive study of Forman's work from his 'New Wave' work in Czechoslovakia (Loves of a Blonde, The Fireman's Ball) to his U.S. studio successes (One Flew Over the Cuckoo's Nest, Amadeus), to his idiosyncratic and parabolic last films (Man on the Moon, Goya's Ghosts). Among other topics, the course contemplate the value of a dark sense of humor, cinematic gorgeousness, and artistic dissidence.

Instructor(s): Malynne Sternstein Terms Offered: Winter

Equivalent Course(s): CMST 26603, REES 22010, REES 32010, FNDL 22010

# CMST 36705. Kieslowski: The Decalogue. 100 Units.

In this class, we study the monumental series 'The Decalogue' by one of the most influential filmmakers from Poland, Krzysztof Kie#lowski. Without mechanically relating the films to the Ten Commandments, Kie#lowski explores the relevance of the biblical moral rules to the state of modern man forced to make ethical choices. Each part of the series contests the absolutism of moral axioms through narrative twists and reversals in a wide, universalized sphere. An analysis of the films will be accompanied by readings from Kie#lowski's own writings and interviews, including criticism by Zizek, Insdorf, and others.

Instructor(s): Bozena Shallcross Terms Offered: Autumn Equivalent Course(s): REES 27026, REES 37026, CMST 26705, FNDL 24003

# CMST 37011. Experimental Captures. 100 Units.

This production-based class will explore the possibilities and limits of capturing the world with imaging approaches that go beyond the conventional camera. What new and experimental image-based artworks can be created with technologies such as laser scanning, structured light projection, time of flight cameras, photogrammetry, stereography, motion capture, sensor augmented cameras or light field photography? This hands-on course welcomes students with production experience while being designed to keep established tools and commercial practices off-kilter and constantly in question. Instructor(s): M. Downie Terms Offered: Autumn

Equivalent Course(s): ARTV 27923, ARTV 37923, CMST 27011, MAAD 21011

## CMST 37205. Film Aesthetics. 100 Units.

The main questions to be discussed are: the bearing of cinema on philosophy; or in what sense, if any, is cinema a form of philosophical thought? What sort of distinctive aesthetic object is a film, or what is the 'ontology' of film? What, in particular, distinguishes a 'realist' narrative film? What is a 'Hollywood' film? What is a Hollywood genre? Authors to be read include, among others, Bazin, Cavell, Perkins, Wilson, Rothman. Films to be seen and discussed, among others, include films by Bresson, Ford, Ophuls, Cukor, Hitchcock, and the Dardenne brothers. (I)

Instructor(s): J. Conant, R. Pippin Terms Offered: Spring

Equivalent Course(s): CMST 27205, PHIL 20208, SCTH 38112, PHIL 30208

# CMST 37802. Art and Public Life. 100 Units.

The aim of this seminar-colloquium will be to work through some of the most advanced thinking on ideas about publics and their relation to questions of community, politics, society, culture, and the arts. From John Dewey through Hannah Arendt and Jurgen Habermas, the notion of the public has remained central to a wide variety of debates in the humanities and social sciences. What is a public? How are publics constituted? What is the role of real and virtual space, architectural design, urban planning, and technical media, in the formation of publics? And, most centrally for our purposes, what role can and do the arts play in the emergence of various kinds of publics? The colloquium aspect of the course will involve visiting speakers from a variety of disciplines, both from the University of Chicago faculty, and from elsewhere.

Instructor(s): W.J.T. Mitchell, T. Gates Terms Offered: Autumn

Equivalent Course(s): ENGL 32821, ARTH 47911, MUSI 35014, ARTV 37911

## CMST 37805. Framing, Re-framing, and Un-framing Cinema. 100 Units.

By cinema, we mean the art of the moving image, which is not limited to the material support of a flexible band called film. This art reaches back to early devices to trick the eye into seeing motion and looks forward to new media and new modes of presentation. With the technological possibility of breaking images into tiny pixels and reassembling them and of viewing them in new way that this computerized image allows, we now face the most radical transformation of the moving image since the very beginnings of cinema. A collaboration between the OpenEndedGroup (Marc Downie and Paul Kaiser), artists who have created new modes of the moving image for more than decade, and film scholar Tom Gunning, this course will use this moment of new technologies to explore and expand the moving image before it becomes too rigidly determined by the powerful industrial forces now propelling it forward. This course will be intensely experimental as we see how we might use new computer algorithms to take apart and re-experience classic films of the past. By using new tools, developed for and during this class, students will make new experiences inside virtual reality environments for watching, analyzing, and recombining films and that are unlike any other. These tools will enable students, regardless of previous programming experience, to participate in this crucial technological and cultural juncture.

Equivalent Course(s): ARTV 20805, ARTV 30805, CMST 27805

# CMST 37867. 1990s Videogame History. 100 Units.

In this course, we will be turning to the 1990s to learn about videogame history and historiography. Focusing on this period will allow us to examine the videogame medium within broader historical and cultural contexts, and to explore issues related to doing recent and contemporary cultural history. What was the relationship between technological innovations and stylistic changes in the videogame medium? How did the entry of new corporate and creative players into the business affect industrial structures and strategies? What do we make of 'freedom,' 'realism,' and other concepts that dominated videogame press coverage - and how were they connected to broader cultural discourses? How did understandings of what it meant to play videogames and the types of experiences that videogames could offer change over the course of the decade? What was the relationship between developments in the videogame medium and other media - from film and fiction to virtual reality and the Internet? How has this decade been remembered, conceptualized, preserved, and repackaged in subsequent decades? How do we go about doing history of a still-young medium, operating in multiple national and cultural contexts, and focused on such a recent decade? This course will take advantage of the University of Chicago's videogame collection and the Media Arts, Data, and Design Center's hardware collection to provide as comprehensive a view as possible of the videogame medium in this period.

Instructor(s): Chris Carloy Terms Offered: Spring

Equivalent Course(s): CMST 27867, MAPH 34516, MAAD 25416

# CMST 37911. Augmented Reality Production. 100 Units.

Focusing on experimental moving-image approaches at a crucial moment in the emerging medium of augmented reality, this class will explore and interrogate each stage of production of AR works. Students in this production-based class will examine the techniques and opportunities of this new kind of moving image. During this class we'll study the construction of examples across a gamut from locative media, journalism, and gameplay-based works to museum installations. Students will complete a series of critical essays and sketches towards a final augmented reality project using a custom set of software tools developed in and for the class.

Instructor(s): M. Downie Terms Offered: Winter

Equivalent Course(s): CMST 27911, ARTV 37921, MAAD 22911, ARTV 27921

# CMST 37920. Virtual Reality Production. 100 Units.

Focusing on experimental moving-image approaches at a crucial moment in the emerging medium of virtual reality, this class will explore and interrogate each stage of production for VR. By hacking their way around the barriers and conventions of current software and hardware to create new optical experiences, students will design, construct and deploy new ways of capturing the world with cameras and develop new strategies and interactive logics for placing images into virtual spaces. Underpinning these explorations will be a careful discussion, dissection and reconstruction of techniques found in the emerging VR 'canon' that spans new modes of journalism and documentary, computer games, and narrative 'VR cinema.' Film production and computer programming experience is welcome but not a prerequisite for the course. Students will be expected to complete short 'sketches' of approaches in VR towards a final short VR experience. Instructor(s): M.Downie Terms Offered: Spring

Note(s): Film production and computer programming experience is welcome but not a prerequisite for the course. Students will be expected to complete short 'sketches' of approaches in VR towards a final short VR experience. Equivalent Course(s): CMST 27920, ARTV 37920, ARTV 27920, MAAD 24920

## CMST 38100. Issues in Film Music. 100 Units.

This course explores the role of film music in the history of cinema. What role does music play as part of the narrative (source music) and as nondiegetic music (underscoring)? How does music of different styles and provenance contribute to the semiotic universe of film? And how did film music assume a central voice in twentieth-century culture? We study music composed for films (original scores) as well as pre-existent music (e.g., popular and classical music). The twenty films covered in the course may include classical Hollywood cinema, documentaries, foreign (e.g., non-Western) films, experimental films, musicals, and cartoons.

Instructor(s): B. Hoeckner

Note(s): This course typically is offered in alternate years.

Equivalent Course(s): MUSI 22901, CMST 28100, MUSI 30901

## CMST 38700. History of International Cinema, Part III: 1960 to Present. 100 Units.

This course will continue the study of cinema around the world from the late 1950s through the 1990s. We will focus on New Cinemas in France, Czechoslovakia, Germany, the United States, the United Kingdom, and other countries. We will pay special attention to experimental stylistic developments, women directors, and well-known auteurs. After the New Cinema era we will examine various developments in world cinema, including the rise of Bollywood, East Asian film cultures, and other movements.

Instructor(s): J.Lastra Terms Offered: Spring

Note(s): This course follows the subject matter taught in CMST 28500/48500 and CMST 28600/48600, but these are not prerequisites.

Equivalent Course(s): CMST 28700, MAAD 18700

## CMST 38703. Video Art: The Analog Years. Theory, Technology, Practice. 100 Units.

The course gives a critical introduction to early video and television art - from the proto-televisual impulses in the historical avant-gardes to the increasing proximity between analog and digital technologies in video art in the late 1970's and early 1980's. We will focus on the various technical aspects of analog video, as well as on artistic practice and early writings on the subject. Topics will include the technics and politics of time; video, feedback systems and ecology; the reconfiguration of the artist's studio; guerilla politics and alternative TV; video and autobiography; the relation between video and painting; the musical history of video; the invention of new machines; and video as a 'television viewer'. Instructor(s): I. Blom Terms Offered: Autumn

Equivalent Course(s): ARTH 21313, MAAD 18703, CMST 28703, ARTH 31313

## CMST 39002. Motion Pictures in the Human Sciences. 100 Units.

This course will examine the relationship between moving images, particularly motion-picture films, and the human sciences, broadly construed, from the early days of cinema to the advent of functional magnetic resonance imaging (fMRI). It will use primary source documents alongside screenings to allow students to study what the moving image meant to researchers wishing to develop knowledge of mind and behavior, and what they thought film could do that still photography and unmediated human observation could not. The kinds of motion pictures we will study will vary widely, from infant development studies to psychiatric films, from documentaries to research films, and from films made by scientists or clinicians as part of their laboratory or therapeutic work to experimental films made by seasoned filmmakers. We will explore how people used the recordings they made in their own studies, in communications with other scientists, and for didactic and other purposes. We will also discuss how researchers' claims about mental processes-perception, memory, consciousness, and interpersonal influence-drew on their understandings of particular technologies.

Equivalent Course(s): HIPS 25208, CMST 29002, HIST 25208, CHSS 35208, HIST 35208

# CMST 39300. Aesthetics: Phil/Photo/Film. 100 Units.

Equivalent Course(s): ARTH 27301, CMST 29300, PHIL 31301, ARTH 37301, PHIL 21100

## CMST 40000. Methods and Issues in Cinema Studies. 100 Units.

This course offers an introduction to ways of reading, writing on, and teaching film. The focus of discussion will range from methods of close analysis and basic concepts of film form, technique and style; through industrial/critical categories of genre and authorship (studios, stars, directors); through aspects of the cinema as a social institution, psycho-sexual apparatus and cultural practice; to the relationship between filmic texts and the historical horizon of production and reception. Films discussed will include works by Griffith, Lang, Hitchcock, Deren, Godard.

Instructor(s): S.Skvirsky Terms Offered: Autumn

Equivalent Course(s): ENGL 48000, MAPH 33000, ARTH 39900

# CMST 42719. Music, Emotions and Modernity. 100 Units.

This seminar explores the relationship between music and emotion, focusing on emotions that have a special affinity with the experience of modernity, as expressed in music and film. A major portion of the seminar will be concerned with mixed emotions, including forms of pleasurable sadness, ranging from the Elizabethan cult of melancholia prominent in the music of John Dowland to modern bittersweetness, as manifest in nineteenth-century melodrama and such films as Back Street (1941) and La La Land (2016). Readings will include scholarship in musicology and film studies as well as empirical research in psychology and affect theory. Participants will take turns in functioning as 'experts' for select seminar sessions by preparing readings and objects for class discussion. Participants taking the class for credit will present a 25-minute research paper at a mini-conference in Week 11.

Instructor(s): Berthold Hoeckner Terms Offered: Autumn. Offered Autumn 2018 Thursdays 9:30am-12:20pm in JRL room 264

Equivalent Course(s): MUSI 42719

## CMST 43418. Surrealism and Cinema. 100 Units.

This seminar examines the relations between Surrealism and the cinema in interwar France, and the aesthetic, political, and theoretical debates produced by their encounter. To what extent may Surrealism, in its varied iterations, be productively read through the optic of cinema, and even as a cinematic movement? And to what extent is cinema an implicitly Surrealist medium? In addition to tracing a precise history of Surrealism, cinema, and its discontents during this period through works by Louis Aragon, Antonin Artaud, Georges Bataille, Walter Benjamin, André Breton, Luis Buñuel, René Clair, Joseph Cornell, Salvador Dalí, Robert Desnos, Germaine Dulac, Louis Feuillade, Sigmund Freud, Jean Painlevé and Geneviève Hamon, Jean Vigo, and others, this class explores the potential of Surrealism as a methodology for critical and theoretical studies of cinema, literature, culture, and history.

Equivalent Course(s): FREN 36218

#### CMST 44510. The Aesthetics of Socialist Realism. 100 Units.

Socialist Realism was declared the official mode of Soviet aesthetic culture in 1934. Though it has been dismissed within the totalitarian model as propaganda or kitsch, this seminar will approach it from the perspective of its aesthetics. By this we mean not only its visual or literary styles, but also its sensory or haptic address to its audiences. Our premise is that the aesthetic system of Socialist Realism was not simply derivative or regressive, but developed novel techniques of transmission and communication; marked by a constant theoretical reflection on artistic practice, Socialist Realism redefined the relationship between artistic and other forms of knowledge, such as science. Operating in an economy of art production and consumption diametrically opposed to the Western art market, Socialist Realism challenged the basic assumptions of Western artistic discourse, including the concept of the avant-garde. It might even be said to offer an alternate model of revolutionary cultural practice, involving the chronicling and producing of a non-capitalist form of modernity. The seminar will focus on Soviet visual art, cinema and fiction during the crucial period of the 1930s under Stalin (with readings available in translation), but we welcome students with relevant research interests that extend beyond these parameters. Conducted jointly by professors Robert Bird (Slavic and Cinemaand Media Studies, University of Chicago) and Christina Kiaer, Art History, Northwestern University, course meetings will be divided evenly between the campuses of Northwestern Univ

Instructor(s): Robert Bird Terms Offered: TBD Equivalent Course(s): ARTH 44502, REES 36067

#### CMST 44601. Opera Film: China / Europe: Thinking Media Hybridity across Cases. 100 Units.

This seminar will explore the mutual attraction of cinema and opera across the two vast operatic cultures of Europe and China in order to interrogate the many cross-cultural issues that their media encounters produce and accentuate. Such issues include changing relations to myth, ritual, history, and politics; cross-dressing and gender-bending; closed forms or open; stock characters wand plots or narrative fluidity. We will ask why in both China and Europe, opera repeatedly became the conflicted site of nationalist and modernizing aspirations, reiterations of tradition, and attempts at avant-gardism. When the presumed realism of film meets the extravagant hyperperformativity of opera, the encounter produces some extraordinary third kinds-media hybrids. Film repeatedly wrestled with the inherent histrionics of opera through the use of such devices as close-ups, camera angles, shot reverse shot, displacement of sound from sight, acousmatic sound, and trick photography. Such devices were generally meant to suture the supposed improbabilities of the operatic art form, incongruities often based on extravagant and transcendent relationships to realism. Such cinematic renderings of opera are highly revealing of fundamental faultlines in the genres themselves and revealing of the cultures that produced them. Instructor(s): J. Zeitlin and M. Feldman Terms Offered: Winter

Equivalent Course(s): ITAL 41419, TAPS 41401, MUSI 45019, EALC 41401, CDIN 41401

## CMST 44606. China's New Documentary Cinema. 100 Units.

Since the early 1990s, the 'new documentary' has emerged as one of the most prominent phenomena in Chinese film and video, widely circulating at international film festivals and eliciting considerable critical debate. This course examines the styles and functions of China's 'new documentary' over the last fifteen years, paying particular attention to the institutional, cultural, economic, and political conditions that underpin its flourishing. This overview will lead us to consider questions that concern the recent explosion of the documentary form worldwide, and to explore the tensions and imbalances that characterize the global circulation of the genre. We will address such issues as: what is 'new' about China's recent documentary timenasions of documentary filmmaking, and the ways in which these dimensions intersect in its production and circulation; the extent to which the international demand for 'unofficial' images from China has contributed to its growth; the politics involved in documentary filmmaking, and the forms and meanings of 'independent' cinema in the wake of intensified globalization; the links between Chinese documentary and the global rise of documentary filmmaking, and the ways in which they challenge extant concepts and theorizations of the genre. Instructor(s): P. Jovene

Equivalent Course(s): EALC 24502, EALC 35402, CMST 24606

# CMST 45540. Fact and Fiction. 100 Units.

Since Grierson's definition of the documentary as 'creative treatment of actuality,' critics have been struggling to establish distinctions between documentary and fiction. Furthermore, the critical discourse has been constantly challenged by new artistic meditations of reality and its representation, and works blurring the border between the logic of facts and the logic of fiction. Additionally, this dualism is complicated by the difficult question of truth telling. Cinema has a long and winding history of non-fiction: from staged or dramatized actualities at its beginning, via docudrama, fake documentaries and mockumentary, to trends in recent documentaries that incorporate reenactment and animation. Since the mid-1990s the 'documentary turn in contemporary art' has seen more and more artists experimenting with documentary modes through which they are questioning the mediations by which facts/documents acquire their facticity. The aim of this seminar will be to examine films and works in contemporary art that address these difficult questions of fact and fiction. Readings will include work from film and art criticism and theory, as well as critical literature addressing questions of fact and fiction in historiography, narratology, and philosophy. Films may include works by Edison, Robert Flaherty, Ari Folman, Abbas Kiraostami, Chris Marker, George Méliès, Avi Mograbi, Rithy Panh, Peter Watkins. Works by contemporary artists may include Kutlug Ataman, The Atlas Group/

Equivalent Course(s): ARTH 25540, CMST 25540, ARTV 20540, MAPH 45540, ARTH 35540, ARTV 45540

## CMST 47007. Seeing and Knowing. 100 Units.

The concept of visuality attends to the ways in which things become seeable, knowable, and governable. Scholars who study optical instruments, architecture, cinema, and media have done much to show us how visual technologies change our ways of seeing. Others in the history of science study how practices of observation transform our understanding of natureand ourselves. This comparative course analyzes regimes of visuality in different cultural and historical contexts. After a short introduction on the philosophy of visual experience and psychology of visual perception, we will investigate a series of configurations of seeing and knowing. These sites range from the history of disability to contemporary climate science, and students will be asked to contribute visual topics from their own research or disciplines for collective exploration in our seminar. Through comparative study, we will work to develop new categories or relationships for linking perception and knowledge.

Instructor(s): Alex Campolo Terms Offered: Spring

Equivalent Course(s): ARTH 40307, CHSS 40307, KNOW 40307

#### CMST 47801. Media Archeology vs. Media Aesthetics. 100 Units.

The course stages an encounter between media archeology and media aesthetics, two distinct but related research perspectives that are at times seen as incommensurable approaches to the media technological environment. Media archeology focuses on the non-human agencies and complex machinic arrangements that are at work in technologies whose microtemporal operations cannot be grasped by human perception: media archeology typically refuses phenomenological approaches. In contrast, media aesthetics focuses on the phenomenological interface between machine systems and human perception and sensation, and various forms of cultural and political negotiations of a lifeworld that is increasingly dominated by technologies that both store and produce time. We will read key texts from both fields and discuss how we may understand their differences as well as their points of intersection.

Instructor(s): I. Blom Terms Offered: Autumn

Note(s): Students must attend 1st class to confirm enrollment.

Equivalent Course(s): ARTH 41313

# CMST 47803. The Body of Cinema: Hypnoses, Emotions, Animalities. 100 Units.

TBD

Equivalent Course(s): CMST 27803, ENGL 37803

## CMST 47815. Media Atmospheres: Art, Technology, and Environment in the 21st Century. 100 Units.

In the late 1990's and early 00's contemporary art seemed to turn towards design and architecture, leading many critics to claim that the boundaries between the practices of art and design were eroding. This course proposes a different line of inquiry, based on the fact that so many of the artworks in question were in fact hidden media machines, improvisations on a life environment increasingly suffused in the dynamics of networked media technologies and their various modes of time production and -control. Elements of design and architecture were in other words enlisted in the construction of what we may call media atmospheres, everyday sensorial surrounds that addressed the intimate integration of bodies and real-time technologies in the information economy, a new modality of the capture of life forces that Michel Foucault called biopolitics. The course will be oriented around a close study of a select number of artistic positions, in addition to reading theoretical and critical texts that are important to the artists in question as well as to the larger field of discussion. Ultimately, the course is about a form of new media at less invested in technical invention than in new aesthetic techniques of social/ environmental production.

Instructor(s): I. Blom Terms Offered: Autumn Equivalent Course(s): ARTH 41315

## CMST 48108. Film, Music, Emotion. 100 Units.

This course explores the role of emotions in movies. Films represent emotions, such as the feelings of a character; and they elicit emotions in viewers, making it part of their cinematic experience. Cinematic emotions are often constitutive of genre, ranging from the laughter in slapstick comedy to cathartic tears in melodrama. While film has long been scrutinized for the visual representation of emotions (for example with the close-up of a face), sound and music are vital contributors to representing and eliciting emotions. This seminar will focus on a series of films that mix emotions in order to express social dilemmas and dramatic conflict, often connected to issues of gender, sexual, and racial identity. Films discussed range from Stella Dallas (1937) and Imitation of Life (1937) to Moonlight (2016) and Parasite (2019). Readings will include scholarship in film studies, affect theory, and some empirical research in cognitive and social psychology. Participants will take turns in functioning as 'experts' for select class sessions by preparing readings and objects for class discussion. In weeks 7-10, the seminar will partly focus on objects and research pertinent to participants' research papers, which will be presented at a miniconference in Week 11.

Terms Offered: Winter Note(s): Open for MAPH students only. Equivalent Course(s): MAPH 48108

## CMST 48117. Seminar: Music in Sound Studies. 100 Units.

This graduate research seminar will explore the relationship between film music and film sound. Our focus will be exploratory, based on an eclectic list of films, supplemented by relevant readings in film music studies and film sound studies. Participants will provide sample analyses of films, short reports on weekly readings, and write a research paper to be presented at a mini-conference in Week 11.

Equivalent Course(s): MUSI 44417

## CMST 48500-48600. History of International Cinema I-II.

This sequence is required of students majoring in Cinema and Media Studies. Taking these courses in sequence is strongly recommended but not required.

## CMST 48500. History of International Cinema I: Silent Era. 100 Units.

This course provides a survey of the history of cinema from its emergence in the mid-1890s to the transition to sound in the late 1920s. We will examine the cinema as a set of aesthetic, social, technological, national, cultural, and industrial practices as they were exercised and developed during this 30-year span. Especially important for our examination will be the exchange of film techniques, practices, and cultures in an international context. We will also pursue questions related to the historiography of the cinema, and examine early attempts to theorize and account for the cinema as an artistic and social phenomenon.

Instructor(s): A. Field Terms Offered: Autumn

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): For students majoring in Cinema and Media Studies, the entire History of International Cinema three-course sequence must be taken.

Equivalent Course(s): MAAD 18500, CMLT 32400, CMST 28500, ENGL 29300, ARTH 38500, ARTH 28500, CMLT 22400, ARTV 20002, MAPH 33600, ENGL 48700

#### CMST 48600. History of International Cinema II: Sound Era to 1960. 100 Units.

The center of this course is film style, from the classical scene breakdown to the introduction of deep focus, stylistic experimentation, and technical innovation (sound, wide screen, location shooting). The development of a film culture is also discussed. Texts include Thompson and Bordwell's Film History: An Introduction; and works by Bazin, Belton, Sitney, and Godard. Screenings include films by Hitchcock, Welles, Rossellini, Bresson, Ozu, Antonioni, and Renoir. Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): CMST 28500/48500 strongly recommended

Equivalent Course(s): MAAD 18600, CMLT 32500, CMLT 22500, ARTH 28600, ARTV 20003, ENGL 48900, ENGL 29600, MAPH 33700, CMST 28600, REES 45005, ARTH 38600, REES 25005

# CMST 53500. Guillotine / Barricade: Figures of History Across Media. 100 Units.

Taking up the French historical technologies of the guillotine and the barricade, this doctoral seminar explores the history of political spectacle, violence, death, and resistance as also part of a history of figuration-conceptualized by Julia Kristeva as the establishment of a relation between two historical realities-across media. We will examine the actual materials and practices of the guillotine and the barricade alongside literary, artistic, and filmic works that deploy the figural logic of both technologies as part of their formal, representational, and/or political articulation. This seminar thus seeks to examine the methodological stakes of inter-medial and interdisciplinary history and historiography that draws equally from French history, literature, visual art (including sculpture), architecture, and film. This class will be taught in English; French reading and research skills are not necessary, but would be beneficial.

Instructor(s): J. Wild Terms Offered: Spring

Equivalent Course(s): CDIN 53500, FREN 43501

## CMST 57200. Film Semiotics: Toward a Linguistic Anthropology of Cinema. 100 Units.

In this seminar we explore a series of topics in the semiotics of film as approached through the semiotic theory developed out of linguistic anthropology: topics will include revisiting questions of structuralist film semiology; iconicity, textuality, and the poetic function; indexicality and ontology; deixis and enunciation; voicing and structures of looking; performativity and image-acts; aesthetic style and enregisterment; rigid designation and stardom. The larger aims of the course are two-fold: one, to articulate a pragmaticist account of the evenemential semiotics of cinema as institutional and textual form-as broached both through ethnographic and close textual methods of analysis-and in doing reconceptualize certain key film theoretic issues; two, to expand and rethink linguistic anthropology's semiotic theory and analysis beyond language/ through cinema; in short, to think both film studies and linguistic anthropology with and against each other so as to further a semiotics of moving images.

Instructor(s): Constantine V. Nakassis Terms Offered: Autumn. Autumn 2019 Equivalent Course(s): ANTH 57400

## CMST 59900. Reading And Research: Cmst. 100 Units.

This course is intended for graduate students in the Cinema and Media Studies program; the subject matter, course of study, and individual requirements are arranged with the instructor prior to registration.

## CMST 61001. Black Film as Art / Black Art as Film. 100 Units.

The aesthetic dimensions of 'Black film' tend to be subordinated to historical, social and political lines of inquiry - histories of 'art film' tend not to include works by Black artists. This seminar foregrounds questions of form and style in film and video works by a wide range Black artists in order to develop new ways of understanding the complex, mutually constitutive relations between Blackness and the moving image. We will pursue experimental practices by Black film and video makers - beginning in the era of segregated 'race film' production of the 1910s-40s, considering moments of stylistic experimentation in the narrative films of Micheaux, Maurice and Williams. We then discuss later film and video works by Black visual and performance artists who exhibit in gallery and museum contexts. Along the way, we will discuss intersections with vanguard practices in related art forms, curatorial efforts, and movements between the art world and the film industry.

## CMST 61102. The L.A. Rebellion and the Politics of Black Cinema. 100 Units.

Equivalent Course(s): CRES 61102

## CMST 61120. Issues and Aesthetics in Contemporary Black Film. 100 Units.

This course considers innovations and trends in Black film aesthetics and politics over the past twenty years. We will focus specifically on their implications for film theory and criticism.

Instructor(s): Kara Keeling Terms Offered: Winter

## CMST 64904. Remapping New Waves: New Cinemas, Film Theory and Criticism in Japan. 100 Units.

We have recently seen a growing number of works that aimed at a broader and renewed understanding of the new cinemas of the 1960s in Japan, with more complex accounts of the historical, geographical, and geopolitical trajectory of the Japanese New Wave. Ongoing investigations have largely ascribed its rise to Oshima Nagisa, the central figure in the publicity-driven phenomenon known as the 'Sho#chiku Nouvelle Vague' (Nu#beru Ba#gu). Amidst these new scholarly texts, there are still a series of theoretical and historical/historiographical questions that have remained underexplored: where did the Japanese New Wave come from, and what actually constituted it? How did the emergence of the new cinema intersect with larger media, social, and intellectual history? Did the cinematic medium have to be radicalized in order to become 'new?' How was such 'newness' visualized, accousticized, and registered by other sensory cues in the cinema? How was the emergence of the new cinema indialogue with institutions? Placing films in the contexts of the era's media-scape, this course will delve into an analytical reconsideration of this rich period of Japanese cinema specifically from the perspective of the Japanese New Wave. While we will aim to capture the exhilaration of the Japanese New Wave by closely analyzing existing studies on some of its key makers and their works, special attention will be given to what has been left out of the category as it is conventionally understood, such as educational and industrial films. All required readings are in English. Participants with reading ability in Japanese will be asked to take on additional readings in Japanese and present on them in class. Equivalent Course(s): EALC 44904

## CMST 67006. Cognitive Approaches to Spectatorship. 100 Units.

This course provides an overview of cognitive approaches to film and media spectatorship to date. It reviews theories of perception, emotion, and cognitive processing as they relate to film viewing and appropriation, and specifically: cognitive theories of human emotions; how film viewing engages body and mind; cognitive approaches to analyzing storytelling and style; cognitive games films play with us; and the theories of attention, identification, and ideological persuasion. Instructor(s): Maria Belodubrovskaya Terms Offered: Autumn

## CMST 67035. Framing, Re-Framing, Un-Framing Cinema. 100 Units.

Description N/A Terms Offered: Spring

### CMST 67100. Realism, Social Modernism: Aesthetics and Politics Between the Wars. 100 Units.

The theoretical influence of arguments in the 1920s and 1930s about the relative value of realism and modernism is well known, but the entwinement of theory with cultural production and political debates is less so. This intensive reading course will attempt to historicize theory between the world wars--or more specifically between Bolshevik and German revolutionary responses to the first war and Popular Front againt the rise of Fascism leading to the second--by revaluating the work relatively familiar theorists such as Benjamin, Lenin, and esp. Lukacs in the light of their interlocutors, in fiction, film, and drama Brecht, Gladkov, Gorki, Pudovkin, Eisenstein, Dovzhenko, Seghers, Sholokhov, Christa Wolf, Konrad Wolf, Frank Beyer and their counterparts in America, the Living Newspaper, Film and Photo League, writers for New Masses as well as in theory Bloch, Eisler, Zhdanov, Kenneth Burke, Mike Gold, John Howard Lawson, among others. Essential texts are available in English but working knowledge of German (or Russian) and/or marxist theory very helpful. Instructor(s): Loren Kruger Terms Offered: Autumn

Equivalent Course(s): CMLT 59400, ENGL 59401, SCTH 59400, GRMN 43700, TAPS 59400

#### CMST 67120. The Single-Shot Film. 100 Units.

Description TBD

Terms Offered: Spring

# CMST 67211. What Was Mise-en-scène? 100 Units.

Mise-en-scène is often understood as a synonym for the act of directing, especially in theater. In film style it is associated with the importance accorded to the placement of props and characters within the film frame, usually in combination with camera movement. This concept was especially important in film criticism of the fifties and sixties and often connected with key post-WWII filmmakers such as Nicholas Ray, Douglas Sirk and Otto Preminger. This seminar will explore the concept both as historical critical concept, and as an ongoing way to discuss the nature of film style. Equivalent Course(s): ARTH 47211

# CMST 67804. Media Ecology. 100 Units.

The seminar aims to develop an ecological understanding of media (infrastructures, platforms, forms). The focus will be on the conceptual shift from dialectics to energetics (as well as the relation between them) that runs through German media theory, philosophies of technology, and new materialisms. The thematic focus for Fall 2020 will be on oceans and waterways.

Terms Offered: Autumn Equivalent Course(s): EALC 67804

## CMST 67814. Cinema Without an Archive. 100 Units.

This seminar takes a comparative approach to issues of archival precarity with particular attention to cinema, memory, and materiality. We will investigate the fraught and contested histories and problems of the archive and the limitations of archival thinking and practice in a comparative context, focusing on post-colonial and post-conflict sites in the Middle East, Asia, Africa, as well as the low rates of survival for minoritarian film practices in the United States. Some of these problems are about gaps: how do we attend to the absence and instability of the film artifact? How do these problems surface-and how are they mediated-in postcolonial sites that grapple with conflict, weak state structures, and contested commemorative practices and issues? Other questions concern definitive versions, remediation, degraded extant material, and barriers to archival access. Topics include the use of extrafilmic evidence and primary paracinematic evidence, fiction and speculative approaches to history, theories of evidence, archival theories and practices, commemorative practices, and the role of state and nongovernmental institutions in the formation of cultural memory.

Instructor(s): Allyson Nadia Field & Ghenwa Hayek Terms Offered: Winter

Prerequisite(s): none

Note(s): There will be a weekly screening with this seminar. Equivalent Course(s): CMLT 67814, NEHC 40711, CDIN 67814
## CMST 67827. Politics of Media: From the Culture Industry to Google Brain. 100 Units.

Media theory frequently focuses on issues of technology as opposed to, or at the cost of, politics and culture. This course reorients attention to the intersection of media and cultural theory. We begin by reviewing key media theories from the Frankfurt School and the Birmingham School. Following a historical introduction, we explore the contemporary field of cultural media theory as it has unfolded in both the humanities and the social sciences. Students will think through how the sites of race, class, gender, and sexuality might frame and always already influence the ways that we think of media - from the broadcast media of Adorno and Horkheimer's culture industry that included radio, film, and television to contemporary pointcasting that is made up of digital and networked technologies. Alongside readings in an expanded media theory, we will engage artistic and cultural works, including literature, films, television serials, smart phone apps, video games, social media, and algorithms. We also explore methodological differences in media studies between the humanities and the social sciences.

Instructor(s): Patrick Jagoda & Kristen Schilt Terms Offered: Winter

Prerequisite(s): Before enrolling, MA students should email Professors Jagoda or Schilt on what you bring and hope to get out of the seminar

Equivalent Course(s): GNSE 45327, SOCI 50119, CDIN 45327, ENGL 45327

#### CMST 67830. What's New in New Media. 100 Units.

This seminar explores new writing on the topic of new media, digital technology, and new practices of image-making. We'll explore a range of different theoretical texts, but also explore recent writing on some of the following topics: media infrastructures; the materiality of media; techniques and technologies of image-making (3D, VR, animation); video games; media archeology; race and media; the politics of social media; queer theory and media studies; and the internationalization of debates on media. We'll look at writers such as: Nicole Starosielski; Melody Jue; Yak Hui; Kara Keeling; Lisa Nakamura; Lisa Parks; Wendy Hui Kyong Chun; Andrew Johnston; Ina Blom; Patrick Jagoda; Kris Cohen; Shane Denson; Brooke Belisle; and others.

Instructor(s): Daniel Morgan Terms Offered: Winter

## CMST 68400. Style and Performance from Stage to Screen. 100 Units.

Actor is the oldest profession among arts. Cinema is the youngest art there is. What happens with faces, gestures, monologues, and voices; ancient skills like dance or mime; grand histrionics etc. when arts of performance hit the medium of screen? This course will focus on the history of acting styles in silent films, mapping 'national' styles of acting that emerged during the 1910s (American, Danish, Italian, Russian) and various 'acting schools' that proliferated during the 1920s ('Expressionist acting,' 'Kuleshov's Workshop,' et al.). We will discuss film acting in the context of various systems of stage acting (Delsarte, Stanislavsky, Meyerhold) and the visual arts.

Equivalent Course(s): ARTH 48905

#### CMST 69002. Cinema and Labor. 100 Units.

#### CMST 69110. The Archive: Materiality, Aesthetics, Visual Culture. 100 Units.

In this research-intensive graduate seminar, students will engage with a range of methods, questions, and approaches to conducting archival research in filmic, paper and print, and internet databases, and in both American and foreign contexts. While some class content will unfold around archival materials related to French film and art practice between 1930-1950, and to the discursive transformations around concepts of materiality and visual aesthetics therein, we will also explore a range of texts on archival methodology; selected texts on archival theory; and case-studies foregrounding modes of archival discovery, evaluation, and interpretation. With the aim of training students for  $\hat{a} \in \alpha deep$  dive $\hat{a} \notin \#$  explorations of material and visual culture, students will be expected to conduct original research on a topic of their own design beginning in week 2. To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research. Proposals should be sent to jenniferwild@uchicago.edu at least 2 weeks prior to spring quarter 2016.

#### Instructor(s): Jennifer Wild Terms Offered: Winter

Note(s): To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research.

Equivalent Course(s): ARTH 49700, FREN 49100

#### CMST 69901. The Films of Ozu Yasujiro. 100 Units.

This course explores Ozu Yasujiro's works from both national and transnational perspectives. Through an intense examination of Ozu's robust film making career, from the student comedies of the late 1920s to the family drama (in Agfacolor) of the early 1960s, we will locate Ozu's works at a dialogic focal point of Japanese, East Asian, American, and European cinema.

## CMST 70000. Advanced Study: Cinema & Media Studies. 300.00 Units.

Advanced Study: Cinema & Media Studies

For further information concerning the PhD Program in Cinema and Media Studies, please see the Graduate Program pages (https://cms.uchicago.edu/content/graduate-program/) on the department's website. Prospective students should also reach out to the Department Administrator (cinema@uchicago.edu/(http://collegecatalog.uchicago.edu/graduate/ departmentofcinema@nuchicago.edu)) with questions or to request more information.

## Information on how to apply

The application process for admission and financial aid for all graduate programs in the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/admissions (http://humanities.uchicago.edu/students/admissions/).

General questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

Information related to admissions in CMS are outlined on the department's website (https://cms.uchicago.edu/graduate/ admissions/).

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu (https://internationalaffairs.uchicago.edu/), or call them at (773) 702-7752.

#### Cinema and Media Studies Courses

#### CMST 30605. Queer and Trans Cinema and Media. 100 Units.

In this course we explore the history of queer and transgender cinema and media in an effort to situate new developments in queer and trans cinema and media making. We will consider relevant theories about gender and sexuality and their implications for our categories of film and media analysis.

Instructor(s): Kara Keeling Terms Offered: Spring

Equivalent Course(s): MAAD 10605, CMST 20605, GNSE 30107, GNSE 20107

#### CMST 30904. Media Wars. 100 Units.

Media practices and discourses evoking war or violence are common today, such as the "weaponization" of social media; "cyber warfare" and attacks; "online battlefields;" "guerilla" media tactics; "The Great Meme War" and "Infowars.com," to name a few. In relationship with terms suggesting that we live in an age of "post-truth" dominated by "fake news" or "factchallenged" journalism, the media wars of today may seem unique to the twenty-first century. But in fact, the history of the use of media to either combat or spread ideas dates back centuries to the earliest phases of mass media and communication. In this class, we will proceed historically, broadly conceiving of media to include print and visual, cultural, and artistic forms, cinema, television, and the internet. While we will explore how media have historically been used to construct or counter dominant systems of representation, we will also discuss how different media forms function formally, learning to analyze how they construct discourses of truth as texts (documentary; propaganda). This class will also function as a contemporary research laboratory where students will be asked to track, evaluate, and theorize contemporary or historical media that are taking part in a so-called "media war."

Instructor(s): Jennifer Wild Terms Offered: Spring

Note(s): Please note: Students who have previously completed the course "Problems in the Study of Gender and Sexuality: Media Wars" are not eligible to receive credit for this class.

Equivalent Course(s): GNSE 20114, CMST 20904, MAAD 10904, SIGN 26061, GNSE 30114

## CMST 31703. Weimar Cinema. 100 Units.

German films between the end of World War I and the establishment of the Third Reich in 1933 are extraordinarily eclectic and intensely inventive, encompassing horror film, socially conscious dramas, expressionist fantasies, experimental documentary, early proto-fascist and anti-fascist films, and that ur-German invention, the mountain film. We will consider some of the most important works of the period, including films by Fritz Lang, Ernst Lubitsch, G.W. Pabst, F.W. Murnau, Arnold Fanck, Walter Ruttmann, and Josef von Sternberg, examining their context, style, reception, formal achievements and historical significance.

Instructor(s): David Levin Terms Offered: Spring

Equivalent Course(s): GRMN 27710, GRMN 37710, CMST 21703

## CMST 32119. Richard Wagner's Ring of the Nibelung in Performance. 100 Units.

This seminar, open to undergraduates and beginning graduate students, serves as a critical introduction to and intensive exploration of Richard Wagner's 19th century tetralogy. In addition to critical readings (e.g., by Wagner, Adorno, Nietzsche, Badiou, Dahlhaus, et al.) and screenings of a host of productions, we will travel downtown to Lyric Opera to attend performances of the Ring cycle in David Pountney's new production. Our discussions of the Chicago production will be supplemented by conversations with members of the Lyric Opera production team, including Anthony Freud, Lyric Opera's General Director. No previous knowledge is required although a curiosity about opera, German culture, media history, and/ or theater & performance studies will be essential.

Instructor(s): David Levin Terms Offered: Spring

Equivalent Course(s): GRMN 33419, TAPS 36519, FNDL 23419, GRMN 23419, TAPS 26519, CMST 22119, MUSI 32520, MUSI 24520

## CMST 32235. Revolutionary Romance in Socialist China. 100 Units.

One of the goals of the socialist revolution was to transform social relations, not only those between classes but also family and romantic relations. One of the first laws that the Chinese Communist Party issued after the founding of the People's Republic was the New Marriage Law, which banned arranged marriages, concubinage, and arrangements involving minors. 1950s cinema and literature advertised romantic love as an important achievement of the new society. At the same time, loyalty to the Party and to the collectivity were also core values that the media emphasized. In this class, we will look at how literature and cinema instructed viewers on how to select one's object of love in Revolutionary China, and how love for a romantic partner, for the party, and for the people were differently foregrounded at specific historical moments. How did ideas of romantic love change from the 1940s to the 1980s, and how did cinema contribute to promoting them? What forms of intimacy and models of attachment characterized revolutionary romance? Which kind of person constituted an ideal romantic partner? Who was to be loved, how, and why? Should one orient one's passion toward one person, many, or none? Instructor(s): P. Lovene Terms Offered: Winter

Equivalent Course(s): GNSE 32235, GNSE 22235, EALC 22235, CMST 22235, EALC 32235

#### CMST 33030. The Italian Cinematographic Comedy. 100 Units.

An important genre in Italian cinema is represented by the "commedia," in particular the declination "all'italiana." It is a very original form of representation of the world invented by Italian cinema. The comedy genre has marked many decades of Italian cinematography: from the plot comedies of the Fifties (going back until the Thirties) with films like "Due soldi di speranza" (1952) by Renato Castellani, to the grotesque comedy of masks of the Sixties, with authors such as Dino Risi ("Il sorpasso," 1962, "I mostri," 1963), Mario Monicelli ("La Grande Guerra," 1959) and Pietro Germi ("Divorzio all'italiana," 1961, "Sedotta e abbandonata," 1964), up to the dominance of the grotesque representation of the world, with authors such as Elio Petri ("Indagine su un cittadino al di sopra di ogni sospetto," 1972). The heritage of the commedia all'italiana can be found in contemporary Italian cinema, as for example with Nanni Moretti. Moretti's cinema in fact summarizes the entire inheritance of Italian cinematographic modernity - starting from neorealism and up to comedy and author cinema - in one of the most effective ways. The Italian cinematographic ormedy is also rooted in the Italian literary tradition, in the masks of "commedia dell'arte," and generally speaking in the different aspects of grotesque tradition (as analyzed by Bachtin). Instructor(s): R. De Gaetano Terms Offered: Spring

Note(s): Taught in English.

Equivalent Course(s): CMST 23030, ITAL 23020, ITAL 33020

## CMST 33500. Pasolini. 100 Units.

This course examines each aspect of Pasolini's artistic production according to the most recent literary and cultural theories, including Gender Studies. We shall analyze his poetry (in particular "Le Ceneri di Gramsci" and "Poesie informa di rosa"), some of his novels ("Ragazzi di vita," "Una vita violenta," "Teorema," "Petrolio"), and his numerous essays on the relationship between standard Italian and dialects, semiotics and cinema, and the role of intellectuals in contemporary Western culture. We shall also discuss the following films: "Accattone," "La ricotta," "Edipo Re," "Teorema," and "Salo". Instructor(s): A. Maggi Terms Offered: Winter

Equivalent Course(s): ITAL 28400, CMST 23500, FNDL 28401, GNSE 28600, ITAL 38400

#### CMST 33930. Documentary Production I. 100 Units.

Documentary Video Production focuses on the making of independent documentary video. Examples of various modes of documentary production will be screened and discussed. Issues embedded in the genre, such as the ethics, the politics of representation, and the shifting lines between "the real" and "fiction" will be explored. Story development, pre-production strategies, and production techniques will be our focus, in particular-research, relationships, the camera, interviews and sound recording, shooting in available light, working in crews, and post-production editing. Students will work in crews and be expected to purchase a portable hard drive. A five-minute string-out/rough-cut will be screened at the end of the quarter. Students are strongly encouraged to take Doc Production 2 to complete their work.

Instructor(s): J. Hoffman Terms Offered: Autumn

Note(s): Prior or concurrent enrollment in CMST 10100 recommended for undergraduate students. Equivalent Course(s): ARTV 23930, ARTV 33930, MAAD 23930, HMRT 25106, HMRT 35106, CMST 23930

#### CMST 33931. Documentary Production II. 100 Units.

Documentary Video Production II focuses on the shaping and crafting of a non-Fiction video. Enrollment will be limited to those students who have taken Documentary Production I. The class will discuss issues of ethics, power, and representation in this most philosophical and problematic of genres. Students will be expected to write a treatment outline detailing their project and learn about granting agencies and budgeting. Production techniques will concentrate on the language of handheld camera versus tripod, interview methodologies, microphone placement including working with wireless systems and mixers, and lighting for the interview. Post-production will cover editing techniques including color correction and audio sweetening, how to prepare for exhibition, and distribution strategies.

Instructor(s): J. Hoffman Terms Offered: Winter

Prerequisite(s): CMST 23930, HMRT 25106, or ARTV 23930

Equivalent Course(s): CMST 23931, ARTV 33931, HMRT 25107, ARTV 23931, MAAD 23931, HMRT 35107

#### CMST 34201. Cinema in Africa. 100 Units.

This course examines Africa in film as well as films produced in Africa. It places cinema in Sub Saharan Africa in its social, cultural, and aesthetic contexts ranging from neocolonial to postcolonial, Western to Southern Africa, documentary to fiction, art cinema to TV, and includes films that reflect on the impact of global trends in Africa and local responses, as well as changing racial and gender identifications. We will begin with La Noire de... (1966), by the "father" of African cinema, Ousmane Sembene, contrasted w/ a South African film, African Jim (1960) that more closely resembles African American musical film, and anti-colonial and anti-apartheid films from Lionel Rogosin's Come Back Africa (1959) to Sarah Maldoror's Sambizanga, Sembene's Camp de Thiaroye (1984), and Jean Marie Teno's Afrique, Je te Plumerai (1995). The rest of the course will examine 20th and 21st century films such as I am a not a Witch and The wound (both 2017), which show tensions between urban and rural, traditional and modern life, and the implications of these tensions for women and men, Western and Southern Africa, in fiction, documentary and fiction film. (20th/21st)

Instructor(s): Loren Kruger Terms Offered: Spring

Prerequisite(s): One or more of the following: Intro to Film/ International Cinema AND/OR Intro to African Studies or equivalent

Note(s): This course also includes a weekly screening section.

Equivalent Course(s): CRES 24201, CRES 34201, CMST 24201, GNSE 28602, ENGL 27600, CMLT 22900, ENGL 48601, ENGL 47600, GNSE 48602, CMLT 42900

#### CMST 34531. Cowboy Modernity. 100 Units.

This course examines the western movie genre through the lens of what is thought of as the cinema's special relationship to and place within twentieth century modernity. From the beginnings of narrative cinema through the 1960s, more westerns were made than any other genre, and the iconography and ideology of the western influenced not only other film genres but also spilled over into other aspects of popular culture and even high art. Why was the cinema, the medium that exemplified modernity for so many people around the world, dominated by westerns, a genre set in the past and in the wilderness? How did the western manifest aspects, anxieties, possibilities, and widespread phenomena of twentieth century modernity? We will examine the western's intersection with modern phenomena, activities, and artforms including tourism, abstract expressionism, feminism, the Baby Boom & television, toys, mining and atomic energy and weapons, and the rise of Las Vegas as a hub for recreational gambling.

Equivalent Course(s): CMST 24531, MAPH 35514

#### CMST 34568. The Underground: Alienation, Mobilization, Resistance. 100 Units.

The ancient and multivalent image of the underground has crystallized over the last two centuries to denote sites of disaffection from-and strategies of resistance to-dominant social, political and cultural systems. We will trace the development of this metaphor from the Underground Railroad in the mid-1800s and the French Resistance during World War II to the Weather Underground in the 1960s-1970s, while also considering it as a literary and artistic concept, from Fyodor Dostoevsky's Notes from the Underground and Ellison's Invisible Man to Chris Marker's film La Jetée and Andrei Tarkovsky's Stalker. Alongside with such literary and cinematic tales, drawing theoretical guidance from refuseniks from Henry David Thoreau to Guy Debord, this course investigates how countercultural spaces become-or fail to become-sites of political resistance, and also how dissenting ideologies give rise to countercultural spaces. We ask about the relation between social deviance (the failure to meet social norms, whether willingly or unwittingly) and political resistance, especially in the conditions of late capitalism and neo-colonialism, when countercultural literature, film and music (rock, punk, hip-hop, DIY aesthetics etc.) get absorbed into-and coopted by-the hegemonic socio-economic system. In closing we will also consider contemporary forms of dissidence-from Pussy Riot to Black Lives Matter-that rely both on the vulnerability of individual bodies and global communication networks.

Instructor(s): R. Bird Terms Offered: Spring

Equivalent Course(s): SIGN 26012, CMST 24568, REES 36068, REES 26068

## CMST 34607. Chinese Independent Documentary Film. 100 Units.

This course explores the styles and functions of Chinese independent documentary since 1989, with particular attention to the social and political contexts that underpin its flourishing in Mainland China and Taiwan. We will discuss the ways in which recent Chinese documentaries challenge current theories of the genre, how they redefine the relationship between fiction and non-fiction, and the problems of media aesthetics, political intervention, and ethics of representation that they pose. We will look at their channels of circulation in Asia and elsewhere, and will discuss the implications and limits of the notion of independence. Readings will include theorizations of the documentary genre in relation to other visual media and narrative forms, analyses of specific works, and discussions on the impact of digital media. Instructor(s): P. Iovene Terms Offered: Spring

Equivalent Course(s): EALC 24607, CMST 24607, EALC 34607

## CMST 35514. Symbolism and Cinema. 100 Units.

In his 1896 essay on cinema, Russian writer Maxim Gorky described the new medium to "madness or symbolism." The connection between cinema and symbolism was not surprising insofar as symbolism was a dominant aesthetic paradigm throughout Europe at the time. However it does suggest (perhaps surprisingly) that from the very beginning cinema was seen as a means of visualizing the non-rational, uncanny and even invisible. This course examines the relationship between symbolism and cinema with particular attention to French and Russian writings and films. Examining how symbolist aesthetics became applied to the cinematic medium, we will pay particular attention the resources it provided for conceptualizing the uncanny and the mystical. We will question whether there exists a distinct symbolist tradition in film history and how it relates to notions of poetic or experimental cinema. Films will represent a broad cross-section of European (and some American) cinema, from Jean Epstein to Sergei Eisenstein and Alexander Dovzhenko, and from Stan Brakhage to Andrei Tarkovsky.

Instructor(s): R. Bird

Equivalent Course(s): REES 36019, CMST 25514, REES 26019

#### CMST 35600. Magic and the Cinema. 100 Units.

This course will trace relations between motion pictures and traditions of magic, both as a theatrical entertainment and as a belief system. The invention of cinema's roots in the magic lantern and other "philosophical toys" which trick the senses into seeing visual illusions will be explored in relation to traditions of "Natural Magic" as well as a secularization of magical practices into entertainment from the Renaissance on. The early trick films of Méliès and others will be discussed in relation to the tradition of stage magic in the 19th century, as well as a particular reception of the magical nature of new technologies (electricity, photography, sound recording). The relation between cinema and hypnosis, both as a social concern and as metapsychological description of spectatorship will also be explored. A consideration to experimental films by Epstein, Artaud, Deren, Anger, Smith, Fischinger, and others.

Equivalent Course(s): ARTH 26200, CMST 25600, ARTH 36200

## CMST 36210. XCAP: Food for Thought. 100 Units.

If anthropology and contemporary art have one thing in common, it is the aim to de-familiarize taken-for-granted ways of being in the world by means of ethnographic comparison or aesthetic provocation so as to open up new perspectives on the complexities of human social life. Co-taught by an artist and an anthropologist, this course considers what's at stake when contemporary artists build on this longstanding practice to explore the complexities of current societal, political, and cultural contexts.

Instructor(s): Laura Letinsky & Stephan Palmié Terms Offered: Autumn

Note(s): for 3rd and 4th year students only

Equivalent Course(s): ARTV 26210, ANTH 35315, ARTV 36210, KNOW 29942, CMST 26210, ARTH 29942, ANTH 25315

## CMST 36403. Post WWII American Mise en Scene Directors. 100 Units.

This course will treat the style of a number of American Hollywood feature film directors during the two decades after World War II, including Nicholas Ray, Anthony Mann, Otto Preminger, and others. These directors were singled out at that time by the critics writing for the French journal Cahiers du Cinema as auteurs, directors with a consistent style. Critics in France, England, and the USA used the term mise en scene to discuss their use of framing, performance, editing, and camera movement and especially their use of new technologies such as wide screen and color. This course will explore the concept of directors' style as well as the mode of close analysis criticism that grew out of this concept. Equivalent Course(s): CMST 26403, AMER 26403

#### CMST 36405. D.W. Griffith. 100 Units.

Controversies fuel American politics and culture. One hundred years ago, Intolerance shook the world, if not the most famous, then the most the most expensive and seminal movie ever made. One hundred and one, The Birth of a Nation generated the loudest controversy on the issue of race; at the same time, its powerful suspense sequence in the finale made this movie a fundamental of action-movie filmmaking for the century to come. Griffith came to movie industry in 1908 and dropped out of it in 1931. This course offers a quarter-of-a-century vast panorama of inventions and innovations, shames and triumphs, brilliant successes and spectacular failures connected with D.W. Griffith, the most famous pioneer in the history of film.

Equivalent Course(s): AMER 36405, AMER 26405, CMST 26405, FNDL 26405

### CMST 36500. The Films of Alfred Hitchcock. 100 Units.

This course focuses on the films of Alfred Hitchcock, one of the greatest filmmakers of the 20th century. We study both his films and a variety of approaches to them. We investigate the enduring power of his movies; his contributions to genre and popular cinema; his storytelling techniques; his stylistic command; his approach to romance, suspense, and action; his status as a master and auteur; and his remarkable control over the audience's thoughts and feelings. Equivalent Course(s): ARTH 28405, FNDL 26510, CMST 26500, ARTH 38405

#### CMST 36603. The Cinema of Miloš Forman. 100 Units.

The films of Miloš Forman (1932-2018) reflect the turbulence of the 1960s, '70s, '80s and '90s, and 2000s by focusing on the underdog, the pariah, the eccentric. The subject matter to which Forman was drawn translated into his cinema with a signature bittersweet tone, emphatic narrative cogency, and lush spontaneity. This course is an intensive study of Forman's work from his "New Wave" work in Czechoslovakia (Loves of a Blonde, The Fireman's Ball) to his U.S. studio successes (One Flew Over the Cuckoo's Nest, Amadeus), to his idiosyncratic and parabolic last films (Man on the Moon, Goya's Ghosts). Among other topics, the course contemplate the value of a dark sense of humor, cinematic gorgeousness, and artistic dissidence.

Instructor(s): Malynne Sternstein Terms Offered: Winter

Equivalent Course(s): CMST 26603, REES 22010, REES 32010, FNDL 22010

#### CMST 36705. Kieslowski: The Decalogue. 100 Units.

In this class, we study the monumental series "The Decalogue" by one of the most influential filmmakers from Poland, Krzysztof Kie#lowski. Without mechanically relating the films to the Ten Commandments, Kie#lowski explores the relevance of the biblical moral rules to the state of modern man forced to make ethical choices. Each part of the series contests the absolutism of moral axioms through narrative twists and reversals in a wide, universalized sphere. An analysis of the films will be accompanied by readings from Kie#lowski's own writings and interviews, including criticism by Zizek, Insdorf, and others.

Instructor(s): Bozena Shallcross Terms Offered: Autumn Equivalent Course(s): REES 27026, REES 37026, CMST 26705, FNDL 24003

#### CMST 37011. Experimental Captures. 100 Units.

This production-based class will explore the possibilities and limits of capturing the world with imaging approaches that go beyond the conventional camera. What new and experimental image-based artworks can be created with technologies such as laser scanning, structured light projection, time of flight cameras, photogrammetry, stereography, motion capture, sensor augmented cameras or light field photography? This hands-on course welcomes students with production experience while being designed to keep established tools and commercial practices off-kilter and constantly in question.

Instructor(s): M. Downie Terms Offered: Autumn

Equivalent Course(s): ARTV 27923, ARTV 37923, CMST 27011, MAAD 21011

#### CMST 37205. Film Aesthetics. 100 Units.

The main questions to be discussed are: the bearing of cinema on philosophy; or in what sense, if any, is cinema a form of philosophical thought? What sort of distinctive aesthetic object is a film, or what is the "ontology" of film? What, in particular, distinguishes a "realist" narrative film? What is a "Hollywood" film? What is a Hollywood genre? Authors to be read include, among others, Bazin, Cavell, Perkins, Wilson, Rothman. Films to be seen and discussed, among others, include films by Bresson, Ford, Ophuls, Cukor, Hitchcock, and the Dardenne brothers. (I)

Instructor(s): J. Conant, R. Pippin Terms Offered: Spring

Equivalent Course(s): CMST 27205, PHIL 20208, SCTH 38112, PHIL 30208

#### CMST 37802. Art and Public Life. 100 Units.

The aim of this seminar-colloquium will be to work through some of the most advanced thinking on ideas about publics and their relation to questions of community, politics, society, culture, and the arts. From John Dewey through Hannah Arendt and Jurgen Habermas, the notion of the public has remained central to a wide variety of debates in the humanities and social sciences. What is a public? How are publics constituted? What is the role of real and virtual space, architectural design, urban planning, and technical media, in the formation of publics? And, most centrally for our purposes, what role can and do the arts play in the emergence of various kinds of publics? The colloquium aspect of the course will involve visiting speakers from a variety of disciplines, both from the University of Chicago faculty, and from elsewhere.

Instructor(s): W.J.T. Mitchell, T. Gates Terms Offered: Autumn Equivalent Course(s): ENGL 32821, ARTH 47911, MUSI 35014, ARTV 37911

### CMST 37805. Framing, Re-framing, and Un-framing Cinema. 100 Units.

By cinema, we mean the art of the moving image, which is not limited to the material support of a flexible band called film. This art reaches back to early devices to trick the eye into seeing motion and looks forward to new media and new modes of presentation. With the technological possibility of breaking images into tiny pixels and reassembling them and of viewing them in new way that this computerized image allows, we now face the most radical transformation of the moving image since the very beginnings of cinema. A collaboration between the OpenEndedGroup (Marc Downie and Paul Kaiser), artists who have created new modes of the moving image for more than decade, and film scholar Tom Gunning, this course will use this moment of new technologies to explore and expand the moving image before it becomes too rigidly determined by the powerful industrial forces now propelling it forward. This course will be intensely experimental as we see how we might use new computer algorithms to take apart and re-experience classic films of the past. By using new tools, developed for and during this class, students will make new experiences inside virtual reality environments for watching, analyzing, and recombining films and that are unlike any other. These tools will enable students, regardless of previous programming experience, to participate in this crucial technological and cultural juncture.

Equivalent Course(s): ARTV 20805, ARTV 30805, CMST 27805

## CMST 37867. 1990s Videogame History. 100 Units.

In this course, we will be turning to the 1990s to learn about videogame history and historiography. Focusing on this period will allow us to examine the videogame medium within broader historical and cultural contexts, and to explore issues related to doing recent and contemporary cultural history. What was the relationship between technological innovations and stylistic changes in the videogame medium? How did the entry of new corporate and creative players into the business affect industrial structures and strategies? What do we make of "freedom," "realism," and other concepts that dominated videogame press coverage - and how were they connected to broader cultural discourses? How did understandings of what it meant to play videogames and the types of experiences that videogame medium and other media - from film and fiction to virtual reality and the Internet? How has this decade been remembered, conceptualized, preserved, and repackaged in subsequent decades? How do we go about doing history of a still-young medium, operating in multiple national and cultural contexts, and focused on such a recent decade? This course will take advantage of the University of Chicago's videogame collection and the Media Arts, Data, and Design Center's hardware collection to provide as comprehensive a view as possible of the videogame medium in this period.

Instructor(s): Chris Carloy Terms Offered: Spring

Equivalent Course(s): CMST 27867, MAPH 34516, MAAD 25416

## CMST 37911. Augmented Reality Production. 100 Units.

Focusing on experimental moving-image approaches at a crucial moment in the emerging medium of augmented reality, this class will explore and interrogate each stage of production of AR works. Students in this production-based class will examine the techniques and opportunities of this new kind of moving image. During this class we'll study the construction of examples across a gamut from locative media, journalism, and gameplay-based works to museum installations. Students will complete a series of critical essays and sketches towards a final augmented reality project using a custom set of software tools developed in and for the class.

Instructor(s): M. Downie Terms Offered: Winter

Equivalent Course(s): CMST 27911, ARTV 37921, MAAD 22911, ARTV 27921

## CMST 37920. Virtual Reality Production. 100 Units.

Focusing on experimental moving-image approaches at a crucial moment in the emerging medium of virtual reality, this class will explore and interrogate each stage of production for VR. By hacking their way around the barriers and conventions of current software and hardware to create new optical experiences, students will design, construct and deploy new ways of capturing the world with cameras and develop new strategies and interactive logics for placing images into virtual spaces. Underpinning these explorations will be a careful discussion, dissection and reconstruction of techniques found in the emerging VR "canon" that spans new modes of journalism and documentary, computer games, and narrative "VR cinema." Film production and computer programming experience is welcome but not a prerequisite for the course. Students will be expected to complete short "sketches" of approaches in VR towards a final short VR experience.

Instructor(s): M.Downie Terms Offered: Spring

Note(s): Film production and computer programming experience is welcome but not a prerequisite for the course. Students will be expected to complete short 'sketches' of approaches in VR towards a final short VR experience. Equivalent Course(s): CMST 27920, ARTV 37920, ARTV 27920, MAAD 24920

#### CMST 38100. Issues in Film Music. 100 Units.

This course explores the role of film music in the history of cinema. What role does music play as part of the narrative (source music) and as nondiegetic music (underscoring)? How does music of different styles and provenance contribute to the semiotic universe of film? And how did film music assume a central voice in twentieth-century culture? We study music composed for films (original scores) as well as pre-existent music (e.g., popular and classical music). The twenty films covered in the course may include classical Hollywood cinema, documentaries, foreign (e.g., non-Western) films, experimental films, musicals, and cartoons.

Instructor(s): B. Hoeckner

Note(s): This course typically is offered in alternate years.

Equivalent Course(s): MUSI 22901, CMST 28100, MUSI 30901

## CMST 38700. History of International Cinema, Part III: 1960 to Present. 100 Units.

This course will continue the study of cinema around the world from the late 1950s through the 1990s. We will focus on New Cinemas in France, Czechoslovakia, Germany, the United States, the United Kingdom, and other countries. We will pay special attention to experimental stylistic developments, women directors, and well-known auteurs. After the New Cinema era we will examine various developments in world cinema, including the rise of Bollywood, East Asian film cultures, and other movements.

Instructor(s): J.Lastra Terms Offered: Spring

Note(s): This course follows the subject matter taught in CMST 28500/48500 and CMST 28600/48600, but these are not prerequisites.

Equivalent Course(s): CMST 28700, MAAD 18700

#### CMST 38703. Video Art: The Analog Years. Theory, Technology, Practice. 100 Units.

The course gives a critical introduction to early video and television art - from the proto-televisual impulses in the historical avant-gardes to the increasing proximity between analog and digital technologies in video art in the late 1970's and early 1980's. We will focus on the various technical aspects of analog video, as well as on artistic practice and early writings on the subject. Topics will include the technics and politics of time; video, feedback systems and ecology; the reconfiguration of the artist's studio; guerilla politics and alternative TV; video and autobiography; the relation between video and painting; the musical history of video; the invention of new machines; and video as a "television viewer".

Instructor(s): I. Blom Terms Offered: Autumn

Equivalent Course(s): ARTH 21313, MAAD 18703, CMST 28703, ARTH 31313

## CMST 39002. Motion Pictures in the Human Sciences. 100 Units.

This course will examine the relationship between moving images, particularly motion-picture films, and the human sciences, broadly construed, from the early days of cinema to the advent of functional magnetic resonance imaging (fMRI). It will use primary source documents alongside screenings to allow students to study what the moving image meant to researchers wishing to develop knowledge of mind and behavior, and what they thought film could do that still photography and unmediated human observation could not. The kinds of motion pictures we will study will vary widely, from infant development studies to psychiatric films, from documentaries to research films, and from films made by scientists or clinicians as part of their laboratory or therapeutic work to experimental films made by seasoned filmmakers. We will explore how people used the recordings they made in their own studies, in communications with other scientists, and for didactic and other purposes. We will also discuss how researchers' claims about mental processes-perception, memory, consciousness, and interpersonal influence-drew on their understandings of particular technologies.

Equivalent Course(s): HIPS 25208, CMST 29002, HIST 25208, CHSS 35208, HIST 35208

#### CMST 39300. Aesthetics: Phil/Photo/Film. 100 Units.

Equivalent Course(s): ARTH 27301, CMST 29300, PHIL 31301, ARTH 37301, PHIL 21100

## CMST 40000. Methods and Issues in Cinema Studies. 100 Units.

This course offers an introduction to ways of reading, writing on, and teaching film. The focus of discussion will range from methods of close analysis and basic concepts of film form, technique and style; through industrial/critical categories of gener and authorship (studios, stars, directors); through aspects of the cinema as a social institution, psycho-sexual apparatus and cultural practice; to the relationship between filmic texts and the historical horizon of production and reception. Films discussed will include works by Griffith, Lang, Hitchcock, Deren, Godard.

Instructor(s): S.Skvirsky Terms Offered: Autumn

Equivalent Course(s): ENGL 48000, MAPH 33000, ARTH 39900

## CMST 42719. Music, Emotions and Modernity. 100 Units.

This seminar explores the relationship between music and emotion, focusing on emotions that have a special affinity with the experience of modernity, as expressed in music and film. A major portion of the seminar will be concerned with mixed emotions, including forms of pleasurable sadness, ranging from the Elizabethan cult of melancholia prominent in the music of John Dowland to modern bittersweetness, as manifest in nineteenth-century melodrama and such films as Back Street (1941) and La La Land (2016). Readings will include scholarship in musicology and film studies as well as empirical research in psychology and affect theory. Participants will take turns in functioning as "experts" for select seminar sessions by preparing readings and objects for class discussion. Participants taking the class for credit will present a 25-minute research paper at a mini-conference in Week 11.

Instructor(s): Berthold Hoeckner Terms Offered: Autumn. Offered Autumn 2018 Thursdays 9:30am-12:20pm in JRL room 264

Equivalent Course(s): MUSI 42719

## CMST 43418. Surrealism and Cinema. 100 Units.

This seminar examines the relations between Surrealism and the cinema in interwar France, and the aesthetic, political, and theoretical debates produced by their encounter. To what extent may Surrealism, in its varied iterations, be productively read through the optic of cinema, and even as a cinematic movement? And to what extent is cinema an implicitly Surrealist medium? In addition to tracing a precise history of Surrealism, cinema, and its discontents during this period through works by Louis Aragon, Antonin Artaud, Georges Bataille, Walter Benjamin, André Breton, Luis Buñuel, René Clair, Joseph Cornell, Salvador Dalí, Robert Desnos, Germaine Dulac, Louis Feuillade, Sigmund Freud, Jean Painlevé and Geneviève Hamon, Jean Vigo, and others, this class explores the potential of Surrealism as a methodology for critical and theoretical studies of cinema, literature, culture, and history.

Equivalent Course(s): FREN 36218

#### CMST 44510. The Aesthetics of Socialist Realism. 100 Units.

Socialist Realism was declared the official mode of Soviet aesthetic culture in 1934. Though it has been dismissed within the totalitarian model as propaganda or kitsch, this seminar will approach it from the perspective of its aesthetics. By this we mean not only its visual or literary styles, but also its sensory or haptic address to its audiences. Our premise is that the aesthetic system of Socialist Realism was not simply derivative or regressive, but developed novel techniques of transmission and communication; marked by a constant theoretical reflection on artistic practice, Socialist Realism redefined the relationship between artistic and other forms of knowledge, such as science. Operating in an economy of art production and consumption diametrically opposed to the Western art market, Socialist Realism challenged the basic assumptions of Western artistic discourse, including the concept of the avant-garde. It might even be said to offer an alternate model of revolutionary cultural practice, involving the chronicling and producing of a non-capitalist form of modernity. The seminar will focus on Soviet visual art, cinema and fiction during the crucial period of the 1930s under Stalin (with readings available in translation), but we welcome students with relevant research interests that extend beyond these parameters. Conducted jointly by professors Robert Bird (Slavic and Cinemaand Media Studies, University of Chicago) and Christina Kiaer, Art History, Northwestern University, course meetings will be divided evenly between the campuses of Northwestern Univ, Socialist Realism was declared the official mode of Soviet aesthetic culture in 1934. Though it has been dismissed within the totalitarian model as propaganda or kitsch, this seminar will approach it from the perspective of its aesthetics. By this we mean not only its visual or literary styles, but also its sensory or haptic address to its audiences. Our premise is that the aesthetic system of Socialist Realism was not simply derivative or regressive, but developed novel techniques of transmission and communication; marked by a constant theoretical reflection on artistic practice, Socialist Realism redefined the relationship between artistic and other forms of knowledge, such as science. Operating in an economy of art production and consumption diametrically opposed to the Western art market, Socialist Realism challenged the basic assumptions of Western artistic discourse, including the concept of the avant-garde. It might even be said to offer an alternate model of revolutionary cultural practice, involving the chronicling and producing of a non-capitalist form of modernity. The seminar will focus on Soviet visual art, cinema and fiction during the crucial period of the 1930s under Stalin (with readings available in translation), but we welcome students with relevant research interests that extend beyond these parameters. Conducted jointly by professors Robert Bird (Slavic and Cinemaand Media Studies, University of Chicago) and Christina Kiaer, Art History, Northwestern Univ

Instructor(s): Robert Bird Terms Offered: TBD

Equivalent Course(s): ARTH 44502, REES 36067

#### CMST 44601. Opera Film: China / Europe: Thinking Media Hybridity across Cases. 100 Units.

This seminar will explore the mutual attraction of cinema and opera across the two vast operatic cultures of Europe and China in order to interrogate the many cross-cultural issues that their media encounters produce and accentuate. Such issues include changing relations to myth, ritual, history, and politics; cross-dressing and gender-bending; closed forms or open; stock characters wand plots or narrative fluidity. We will ask why in both China and Europe, opera repeatedly became the conflicted site of nationalist and modernizing aspirations, reiterations of tradition, and attempts at avant-gardism. When the presumed realism of film meets the extravagant hyperperformativity of opera, the encounter produces some extraordinary third kinds-media hybrids. Film repeatedly wrestled with the inherent histrionics of opera through the use of such devices as close-ups, camera angles, shot reverse shot, displacement of sound from sight, acousmatic sound, and trick photography. Such devices were generally meant to suture the supposed improbabilities of the operatic art form, incongruities often based on extravagant and transcendent relationships to realism. Such cinematic renderings of opera are highly revealing of fundamental faultlines in the genres themselves and revealing of the cultures that produced them. Instructor(s): J. Zeitlin and M. Feldman Terms Offered: Winter

Equivalent Course(s): ITAL 41419, TAPS 41401, MUSI 45019, EALC 41401, CDIN 41401

## CMST 44606. China's New Documentary Cinema. 100 Units.

Since the early 1990s, the "new documentary" has emerged as one of the most prominent phenomena in Chinese film and video, widely circulating at international film festivals and eliciting considerable critical debate. This course examines the styles and functions of China's "new documentary" over the last fifteen years, paying particular attention to the institutional, cultural, economic, and political conditions that underpin its flourishing. This overview will lead us to consider questions that concern the recent explosion of the documentary form worldwide, and to explore the tensions and imbalances that characterize the global circulation of the genre. We will address such issues as: what is "new" about China's recent documentary timensions of documentary filmmaking, and the ways in which these dimensions intersect in its production and circulation; the extent to which the international demand for "unofficial" images from China has contributed to its growth; the politics involved in documentary filmmaking, and the forms and meanings of "independent" cinema in the wake of intensified globalization; the links between Chinese documentary and the global rise of documentary filmmaking, and the ways in which they challenge extant concepts and theorizations of the genre. Instructor(s): P. Iovene

Equivalent Course(s): EALC 24502, EALC 35402, CMST 24606

#### CMST 45540. Fact and Fiction. 100 Units.

Since Grierson's definition of the documentary as "creative treatment of actuality," critics have been struggling to establish distinctions between documentary and fiction. Furthermore, the critical discourse has been constantly challenged by new artistic meditations of reality and its representation, and works blurring the border between the logic of facts and the logic of facton. Additionally, this dualism is complicated by the difficult question of truth telling. Cinema has a long and winding history of non-fiction: from staged or dramatized actualities at its beginning, via docudrama, fake documentaries and mockumentary, to trends in recent documentaries that incorporate reenactment and animation. Since the mid-1990s the "documentary turn in contemporary art" has seen more and more artists experimenting with documentary modes through which they are questioning the mediations by which facts/documents acquire their facticity. The aim of this seminar will be to examine films and works in contemporary art that address these difficult questions of fact and fiction. Readings will include work from film and art criticism and theory, as well as critical literature addressing questions of fact and fiction in historiography, narratology, and philosophy. Films may include works by Edison, Robert Flaherty, Ari Folman, Abbas Kiraostami, Chris Marker, George Mélies, Avi Mograbi, Rithy Panh, Peter Watkins. Works by contemporary artists may include Kuthg Ataman, The Atlas Group/

Equivalent Course(s): ARTH 25540, CMST 25540, ARTV 20540, MAPH 45540, ARTH 35540, ARTV 45540

#### CMST 47007. Seeing and Knowing. 100 Units.

The concept of visuality attends to the ways in which things become seeable, knowable, and governable. Scholars who study optical instruments, architecture, cinema, and media have done much to show us how visual technologies change our ways of seeing. Others in the history of science study how practices of observation transform our understanding of natureand ourselves. This comparative course analyzes regimes of visuality in different cultural and historical contexts. After a short introduction on the philosophy of visual experience and psychology of visual perception, we will investigate a series of configurations of seeing and knowing. These sites range from the history of disability to contemporary climate science, and students will be asked to contribute visual topics from their own research or disciplines for collective exploration in our seminar. Through comparative study, we will work to develop new categories or relationships for linking perception and knowledge.

Instructor(s): Alex Campolo Terms Offered: Spring Equivalent Course(s): ARTH 40307, CHSS 40307, KNOW 40307

#### CMST 47801. Media Archeology vs. Media Aesthetics. 100 Units.

The course stages an encounter between media archeology and media aesthetics, two distinct but related research perspectives that are at times seen as incommensurable approaches to the media technological environment. Media archeology focuses on the non-human agencies and complex machinic arrangements that are at work in technologies whose microtemporal operations cannot be grasped by human perception: media archeology typically refuses phenomenological approaches. In contrast, media aesthetics focuses on the phenomenological interface between machine systems and human perception and sensation, and various forms of cultural and political negotiations of a lifeworld that is increasingly dominated by technologies that both store and produce time. We will read key texts from both fields and discuss how we may understand their differences as well as their points of intersection.

Instructor(s): I. Blom Terms Offered: Autumn

Note(s): Students must attend 1st class to confirm enrollment.

Equivalent Course(s): ARTH 41313

## CMST 47803. The Body of Cinema: Hypnoses, Emotions, Animalities. 100 Units.

TBD

Equivalent Course(s): CMST 27803, ENGL 37803

## CMST 47815. Media Atmospheres: Art, Technology, and Environment in the 21st Century. 100 Units.

In the late 1990's and early 00's contemporary art seemed to turn towards design and architecture, leading many critics to claim that the boundaries between the practices of art and design were eroding. This course proposes a different line of inquiry, based on the fact that so many of the artworks in question were in fact hidden media machines, improvisations on a life environment increasingly suffused in the dynamics of networked media technologies and their various modes of time production and -control. Elements of design and architecture were in other words enlisted in the construction of what we may call media atmospheres, everyday sensorial surrounds that addressed the intimate integration of bodies and real-time technologies in the information economy, a new modality of the capture of life forces that Michel Foucault called biopolitics. The course will be oriented around a close study of a select number of artistic positions, in addition to reading theoretical and critical texts that are important to the artists in question as well as to the larger field of discussion. Ultimately, the course is about a form of new media at less invested in technical invention than in new aesthetic techniques of social/ environmental production.

Instructor(s): I. Blom Terms Offered: Autumn Equivalent Course(s): ARTH 41315

## CMST 48108. Film, Music, Emotion. 100 Units.

This course explores the role of emotions in movies. Films represent emotions, such as the feelings of a character; and they elicit emotions in viewers, making it part of their cinematic experience. Cinematic emotions are often constitutive of genre, ranging from the laughter in slapstick comedy to cathartic tears in melodrama. While film has long been scrutinized for the visual representation of emotions (for example with the close-up of a face), sound and music are vital contributors to representing and eliciting emotions. This seminar will focus on a series of films that mix emotions in order to express social dilemmas and dramatic conflict, often connected to issues of gender, sexual, and racial identity. Films discussed range from Stella Dallas (1937) and Imitation of Life (1937) to Moonlight (2016) and Parasite (2019). Readings will include scholarship in film studies, affect theory, and some empirical research in cognitive and social psychology. Participants will take turns in functioning as "experts" for select class sessions by preparing readings and objects for class discussion. In weeks 7-10, the seminar will partly focus on objects and research pertinent to participants' research papers, which will be presented at a miniconference in Week 11.

Terms Offered: Winter

Note(s): Open for MAPH students only. Equivalent Course(s): MAPH 48108

#### CMST 48117. Seminar: Music in Sound Studies. 100 Units.

This graduate research seminar will explore the relationship between film music and film sound. Our focus will be exploratory, based on an eclectic list of films, supplemented by relevant readings in film music studies and film sound studies. Participants will provide sample analyses of films, short reports on weekly readings, and write a research paper to be presented at a mini-conference in Week 11.

Equivalent Course(s): MUSI 44417

## CMST 48500-48600. History of International Cinema I-II.

This sequence is required of students majoring in Cinema and Media Studies. Taking these courses in sequence is strongly recommended but not required.

## CMST 48500. History of International Cinema I: Silent Era. 100 Units.

This course provides a survey of the history of cinema from its emergence in the mid-1890s to the transition to sound in the late 1920s. We will examine the cinema as a set of aesthetic, social, technological, national, cultural, and industrial practices as they were exercised and developed during this 30-year span. Especially important for our examination will be the exchange of film techniques, practices, and cultures in an international context. We will also pursue questions related to the historiography of the cinema, and examine early attempts to theorize and account for the cinema as an artistic and social phenomenon.

Instructor(s): A. Field Terms Offered: Autumn

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): For students majoring in Cinema and Media Studies, the entire History of International Cinema three-course sequence must be taken.

Equivalent Course(s): MAAD 18500, CMLT 32400, CMST 28500, ENGL 29300, ARTH 38500, ARTH 28500, CMLT 22400, ARTV 20002, MAPH 33600, ENGL 48700

## CMST 48600. History of International Cinema II: Sound Era to 1960. 100 Units.

The center of this course is film style, from the classical scene breakdown to the introduction of deep focus, stylistic experimentation, and technical innovation (sound, wide screen, location shooting). The development of a film culture is also discussed. Texts include Thompson and Bordwell's Film History: An Introduction; and works by Bazin, Belton, Stiney, and Godard. Screenings include films by Hitchcock, Welles, Rossellini, Bresson, Ozu, Antonioni, and Renoir. Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): CMST 28500/48500 strongly recommended

Equivalent Course(s): MAAD 18600, CMLT 32500, CMLT 22500, ARTH 28600, ARTV 20003, ENGL 48900, ENGL 29600, MAPH 33700, CMST 28600, REES 45005, ARTH 38600, REES 25005

#### CMST 53500. Guillotine / Barricade: Figures of History Across Media. 100 Units.

Taking up the French historical technologies of the guillotine and the barricade, this doctoral seminar explores the history of political spectacle, violence, death, and resistance as also part of a history of figuration-conceptualized by Julia Kristeva as the establishment of a relation between two historical realities-across media. We will examine the actual materials and practices of the guillotine and the barricade alongside literary, artistic, and filmic works that deploy the figural logic of both technologies as part of their formal, representational, and/or political articulation. This seminar thus seeks to examine the methodological stakes of inter-medial and interdisciplinary history and historiography that draws equally from French history, literature, visual art (including sculpture), architecture, and film. This class will be taught in English; French reading and research skills are not necessary, but would be beneficial.

Instructor(s): J. Wild Terms Offered: Spring

Equivalent Course(s): CDIN 53500, FREN 43501

## CMST 57200. Film Semiotics: Toward a Linguistic Anthropology of Cinema. 100 Units.

In this seminar we explore a series of topics in the semiotics of film as approached through the semiotic theory developed out of linguistic anthropology: topics will include revisiting questions of structuralist film semiology; iconicity, textuality, and the poetic function; indexicality and ontology; deixis and enunciation; voicing and structures of looking; performativity and image-acts; aesthetic style and enregisterment; rigid designation and stardom. The larger aims of the course are two-fold: one, to articulate a pragmaticist account of the evenemential semiotics of cinema as institutional and textual formas broached both through ethnographic and close textual methods of analysis-and in doing reconceptualize certain key film theoretic issues; two, to expand and rethink linguistic anthropology's semiotic theory and analysis beyond language/ through cinema; in short, to think both film studies and linguistic anthropology with and against each other so as to further a semiotics of moving images.

Instructor(s): Constantine V. Nakassis Terms Offered: Autumn. Autumn 2019 Equivalent Course(s): ANTH 57400

#### CMST 59900. Reading And Research: Cmst. 100 Units.

This course is intended for graduate students in the Cinema and Media Studies program; the subject matter, course of study, and individual requirements are arranged with the instructor prior to registration.

#### CMST 61001. Black Film as Art / Black Art as Film. 100 Units.

The aesthetic dimensions of "Black film" tend to be subordinated to historical, social and political lines of inquiry - histories of "art film" tend not to include works by Black artists. This seminar foregrounds questions of form and style in film and video works by a wide range Black artists in order to develop new ways of understanding the complex, mutually constitutive relations between Blackness and the moving image. We will pursue experimental practices by Black film and video makers - beginning in the era of segregated "race film" production of the 1910s-40s, considering moments of stylistic experimentation in the narrative films of Micheaux, Maurice and Williams. We then discuss later film and videomakers who work more consistently and explicitly in experimental modes - the second category includes film and video works by Black visual and performance artists who exhibit in gallery and museum contexts. Along the way, we will discuss intersections with vanguard practices in related art forms, curatorial efforts, and movements between the art world and the film industry.

#### CMST 61102. The L.A. Rebellion and the Politics of Black Cinema. 100 Units.

Equivalent Course(s): CRES 61102

## CMST 61120. Issues and Aesthetics in Contemporary Black Film. 100 Units.

This course considers innovations and trends in Black film aesthetics and politics over the past twenty years. We will focus specifically on their implications for film theory and criticism.

Instructor(s): Kara Keeling Terms Offered: Winter

#### CMST 64904. Remapping New Waves: New Cinemas, Film Theory and Criticism in Japan. 100 Units.

We have recently seen a growing number of works that aimed at a broader and renewed understanding of the new cinemas of the 1960s in Japan, with more complex accounts of the historical, geographical, and geopolitical trajectory of the Japanese New Wave. Ongoing investigations have largely ascribed its rise to Oshima Nagisa, the central figure in the publicity-driven phenomenon known as the "Sho#chiku Nouvelle Vague" (Nu#beru Ba#gu). Amidst these new scholarly texts, there are still a series of theoretical and historical/historiographical questions that have remained underexplored: where did the Japanese New Wave come from, and what actually constituted it? How did the emergence of the new cinema intersect with larger media, social, and intellectual history? Did the cinematic medium have to be radicalized in order to become 'new?? How was such 'newness' visualized, accousticized, and registered by other sensory cues in the cinema? How was the emergence of the new cinema indialogue with institutions? Placing films in the contexts of the era's media-scape, this course will delve into an analytical reconsideration of this rich period of Japanese cinema specifically from the perspective of the Japanese New Wave. While we will aim to capture the exhilaration of the Japanese New Wave by closely analyzing existing studies on some of its key makers and their works, special attention will be given to what has been left out of the category as it is conventionally understood, such as educational and industrial films. All required readings are in English. Participants with reading ability in Japanese will be asked to take on additional readings in Japanese and present on them in class. Equivalent Course(s): EALC 44904

#### CMST 67006. Cognitive Approaches to Spectatorship. 100 Units.

This course provides an overview of cognitive approaches to film and media spectatorship to date. It reviews theories of perception, emotion, and cognitive processing as they relate to film viewing and appropriation, and specifically: cognitive theories of human emotions; how film viewing engages body and mind; cognitive approaches to analyzing storytelling and style; cognitive games films play with us; and the theories of attention, identification, and ideological persuasion. Instructor(s): Maria Belodubrovskaya Terms Offered: Autumn

#### CMST 67035. Framing, Re-Framing, Un-Framing Cinema. 100 Units.

Description N/A Terms Offered: Spring

#### CMST 67100. Realism, Social Modernism: Aesthetics and Politics Between the Wars. 100 Units.

The theoretical influence of arguments in the 1920s and 1930s about the relative value of realism and modernism is well known, but the entwinement of theory with cultural production and political debates is less so. This intensive reading course will attempt to historicize theory between the world wars--or more specifically between Bolshevik and German revolutionary responses to the first war and Popular Front againt the rise of Fascism leading to the second--by revaluating the work relatively familiar theorists such as Benjamin, Lenin, and esp. Lukacs in the light of their interlocutors, in fiction, film, and drama Brecht, Gladkov, Gorki, Pudovkin, Eisenstein, Dovzhenko, Seghers, Sholokhov, Christa Wolf, Konrad Wolf, Frank Beyer and their counterparts in America, the Living Newspaper, Film and Photo League, writers for New Masses as well as in theory Bloch, Eisler, Zhdanov, Kenneth Burke, Mike Gold, John Howard Lawson, among others. Essential texts are available in English but working knowledge of German (or Russian) and/or marxist theory very helpful. Instructor(s): Loren Kruger Terms Offered: Autumn

Equivalent Course(s): CMLT 59400, ENGL 59401, SCTH 59400, GRMN 43700, TAPS 59400

#### CMST 67120. The Single-Shot Film. 100 Units.

Description TBD

Terms Offered: Spring

## CMST 67211. What Was Mise-en-scène? 100 Units.

Mise-en-scène is often understood as a synonym for the act of directing, especially in theater. In film style it is associated with the importance accorded to the placement of props and characters within the film frame, usually in combination with camera movement. This concept was especially important in film criticism of the fifties and sixties and often connected with key post-WWII filmmakers such as Nicholas Ray, Douglas Sirk and Otto Preminger. This seminar will explore the concept both as historical critical concept, and as an ongoing way to discuss the nature of film style. Equivalent Course(s): ARTH 47211

## CMST 67804. Media Ecology. 100 Units.

The seminar aims to develop an ecological understanding of media (infrastructures, platforms, forms). The focus will be on the conceptual shift from dialectics to energetics (as well as the relation between them) that runs through German media theory, philosophies of technology, and new materialisms. The thematic focus for Fall 2020 will be on oceans and waterways.

Terms Offered: Autumn Equivalent Course(s): EALC 67804

#### CMST 67814. Cinema Without an Archive. 100 Units.

This seminar takes a comparative approach to issues of archival precarity with particular attention to cinema, memory, and materiality. We will investigate the fraught and contested histories and problems of the archive and the limitations of archival thinking and practice in a comparative context, focusing on post-colonial and post-conflict sites in the Middle East, Asia, Africa, as well as the low rates of survival for minoritarian film practices in the United States. Some of these problems are about gaps: how do we attend to the absence and instability of the film artifact? How do these problems surface-and how are they mediated-in postcolonial sites that grapple with conflict, weak state structures, and contested commemorative practices and issues? Other questions concern definitive versions, remediation, degraded extant material, and barriers to archival access. Topics include the use of extrafilmic evidence and primary paracinematic evidence, fiction and speculative approaches to history, theories of evidence, archival theories and practices, commemorative practices, and the role of state and nongovernmental institutions in the formation of cultural memory.

Instructor(s): Allyson Nadia Field & Ghenwa Hayek Terms Offered: Winter

Prerequisite(s): none

Note(s): There will be a weekly screening with this seminar.

Equivalent Course(s): CMLT 67814, NEHC 40711, CDIN 67814

## CMST 67827. Politics of Media: From the Culture Industry to Google Brain. 100 Units.

Media theory frequently focuses on issues of technology as opposed to, or at the cost of, politics and culture. This course reorients attention to the intersection of media and cultural theory. We begin by reviewing key media theories from the Frankfurt School and the Birmingham School. Following a historical introduction, we explore the contemporary field of cultural media theory as it has unfolded in both the humanities and the social sciences. Students will think through how the sites of race, class, gender, and sexuality might frame and always already influence the ways that we think of media - from the broadcast media of Adorno and Horkheimer's culture industry that included radio, film, and television to contemporary pointcasting that is made up of digital and networked technologies. Alongside readings in an expanded media theory, we will engage artistic and cultural works, including literature, films, television serials, smart phone apps, video games, social media, and algorithms. We also explore methodological differences in media studies between the humanities and the social sciences.

Instructor(s): Patrick Jagoda & Kristen Schilt Terms Offered: Winter

Prerequisite(s): Before enrolling, MA students should email Professors Jagoda or Schilt on what you bring and hope to get out of the seminar

Equivalent Course(s): GNSE 45327, SOCI 50119, CDIN 45327, ENGL 45327

#### CMST 67830. What's New in New Media. 100 Units.

This seminar explores new writing on the topic of new media, digital technology, and new practices of image-making. We'll explore a range of different theoretical texts, but also explore recent writing on some of the following topics: media infrastructures; the materiality of media; techniques and technologies of image-making (3D, VR, animation); video games; media archeology; race and media; the politics of social media; queer theory and media studies; and the internationalization of debates on media. We'll look at writers such as: Nicole Starosielski; Melody Jue; Yak Hui; Kara Keeling; Lisa Nakamura; Lisa Parks; Wendy Hui Kyong Chun; Andrew Johnston; Ina Blom; Patrick Jagoda; Kris Cohen; Shane Denson; Brooke Belisle; and others.

Instructor(s): Daniel Morgan Terms Offered: Winter

## CMST 68400. Style and Performance from Stage to Screen. 100 Units.

Actor is the oldest profession among arts. Cinema is the youngest art there is. What happens with faces, gestures, monologues, and voices; ancient skills like dance or mime; grand histrionics etc. when arts of performance hit the medium of screen? This course will focus on the history of acting styles in silent films, mapping "national" styles of acting that emerged during the 1910s (American, Danish, Italian, Russian) and various "acting schools" that proliferated during the 1920s ("Expressionist acting," "Kuleshov's Workshop," et al.). We will discuss film acting in the context of various systems of stage acting (Delsarte, Stanislavsky, Meyerhold) and the visual arts. Equivalent Course(s): ARTH 48905

#### CMST 69002. Cinema and Labor. 100 Units.

## CMST 69110. The Archive: Materiality, Aesthetics, Visual Culture. 100 Units.

In this research-intensive graduate seminar, students will engage with a range of methods, questions, and approaches to conducting archival research in filmic, paper and print, and internet databases, and in both American and foreign contexts. While some class content will unfold around archival materials related to French film and art practice between 1930-1950, and to the discursive transformations around concepts of materiality and visual aesthetics therein, we will also explore a range of texts on archival methodology; selected texts on archival theory; and case-studies foregrounding modes of archival discovery, evaluation, and interpretation. With the aim of training students for "deep divaâ€# explorations of material and visual culture, students will be expected to conduct original research on a topic of their own design beginning in week 2. To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research. Proposals should be sent to jenniferwild@uchicago.edu at least 2 weeks prior to spring quarter 2016.

#### Instructor(s): Jennifer Wild Terms Offered: Winter

Note(s): To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research.

Equivalent Course(s): ARTH 49700, FREN 49100

## CMST 69901. The Films of Ozu Yasujiro. 100 Units.

This course explores Ozu Yasujiro's works from both national and transnational perspectives. Through an intense examination of Ozu's robust film making career, from the student comedies of the late 1920s to the family drama (in Agfacolor) of the early 1960s, we will locate Ozu's works at a dialogic focal point of Japanese, East Asian, American, and European cinema.

## CMST 70000. Advanced Study: Cinema & Media Studies. 300.00 Units.

Advanced Study: Cinema & Media Studies



## Department of Classics

## Chair

Clifford Ando

## Professors

- Clifford Ando
- Elizabeth Asmis
- Shadi Bartsch-Zimmer
- Alain Bresson
- Christopher A. Faraone
- Jonathan M. Hall
- Michèle Lowrie
- Sarah Nooter
- Mark Payne
- Sofia Torallas-Tovar
- Peter White

Associate Professors

- Michael I. Allen
- Helma J. Dik
- David G. Martinez
- David L. Wray

Assistant Professors

- Emily Austin
- Catherine Kearns

Assistant Instructional Professor

Colin Shelton

Emeritus Faculty

- Walter R. Johnson
- James M. Redfield

Affiliated Faculty

- Claudia Brittenham, Art History
- Agnes Callard, Philosophy
- Patrick (Patch) Crowley, Art History
- Michael Dietler, Anthropology
- Jas' Elsner, Divinity School
- Elizabeth Gebhard, Director of Excavations, Isthmia
- C. Stephen Jaeger, Germanic and Medieval Studies, U of IL at Urbana-Champaign
- Janet Johnson, Near Eastern Languages and Civilizations
- Walter Kaegi, History, Emeritus
- Demetra Kasimis, Political Sciences
- Matthew Landauer, Political Sciences
- Gabriel Richardson Lear, Philosophy
- Bruce Lincoln, Divinity School
- Boris Maslov, Comparative Literature
- Glenn Most, Committee on Social Thought
- Brian Muhs, Near Eastern Languages and Civilizations
- Richard Neer, Art History
- Martha Nussbaum, Philosophy and Law
- Wendy Olmsted, Humanities

- Ada Palmer, History
- Richard Payne, Near Eastern Languages and Civilizations
- Dennis Pardee, Near Eastern Languages and Civilizations
- James Redfield, Committee on Social Thought, Emeritus
- · Kent Rigsby, Emeritus, Duke University
- Robert Ritner, Near Eastern Languages and Civilization
- Martha Roth, Near Eastern Languages and Civilizations
- David Schloen, Near Eastern Languages and Civilizations
- Laura Slatkin, Committee on Social Thought
- Jeffrey Stackert, Divinity School
- Justin Steinberg (http://rll.uchicago.edu/faculty/steinberg/), Romance Languages and Literatures
- Matthew Stolper, Near Eastern Languages and Civilizations, Emeritus
- Christopher Woods, Near Eastern Languages and Civilization
- Theo van den Hout, Near Eastern Languages and Civilizations
- John Z. Wee, Near Eastern Languages and Civilizations

The **Department of Classics** offers advanced study in the civilizations of the ancient Mediterranean, including literature and literary theory, history, philosophy, religion, science, art, and archaeology. The programs of the department lead to the Ph.D. degree and seek to prepare students for careers in teaching and research. They allow students to explore areas with which they are unfamiliar, as well as to strengthen their knowledge in those in which they have already developed a special interest.

The Classics faculty consists of active scholars, expert in one or more areas of classical studies. Apart from their influence through books and articles, the faculty has long been identified with the publication of *Classical Philology*, one of the leading journals devoted to classical antiquity. The diverse graduate student body at the University include students in a number of programs outside the Department of Classics who are also engaged in the study of the ancient world. The Oriental Institute, the Divinity School, the Committee on Social Thought, and the Departments of Art History, History, Linguistics, and Near Eastern Languages & Civilizations all have programs that focus on aspects of the classical period. The workshops supported by the Council for Advanced Studies, where graduate students, faculty, and visiting scholars present work in progress, are a further means of scholarly collaboration and training. The department currently sponsors workshops entitled Ancient Societies, Rhetoric and Poetics, and Ancient Philosophy, which involve participants from other areas as well.

#### Research and Library Resources

The University of Chicago Library owns over 11 million volumes in print and electronic form. Classics has been one of the Library's strongest collections since its founding in 1891, when the University purchased the entire stock of an antiquarian bookstore in Berlin that specialized in classical philology, archaeology, and religion. Apart from current monographs, the library receives more than seven hundred serials devoted to ancient Greece and Rome and subscribes to the full range of electronic databases useful to ancient studies. Major editions of classical texts printed from the Renaissance through the eighteenth century are available in the Special Collections Research Center, which also houses collections of Greek and Latin manuscripts.

# Financial Aid (https://humanities.uchicago.edu/ students/financial-aid/)

PhD students who matriculate in Summer 2020 and after will be guaranteed to have funding support from the University of Chicago, external sources, or a combination of the two for the duration of their program to include the following:

#### # Full tuition coverage

#### # Annual stipend

# Fully paid individual annual premiums for UChicago's student health insurance (U-SHIP, the University Student Health Insurance Plan)

The goal of the University's commitment to ensuring that students are supported is to allow students to prioritize their studies and prepare for rewarding careers. We expect students to remain in good academic standing and to be making progress toward completing degree requirements.

Students in the Division of the Humanities who entered their PhD program in Summer 2016 or later, and who are still enrolled in 2022-2023 will be fully incorporated into this new funding model, and will receive at least the guaranteed stipend level (subject to applicable taxes), full tuition coverage, and fully paid health insurance premiums for the duration of their program. Students are expected to remain in good academic standing.

Students who matriculated before Summer 2016 will receive at least the funding they were offered at the time of admission and may be eligible for additional funding, such as dissertation completion fellowships. Over the past several years, the Division of the Humanities has increased investments in funding to support students in degree completion.

Additional fellowships and awards are available to support language study, conference travel, and research travel.

#### **Teaching Opportunities**

Teacher Training for Grad Students University of Chicago - Classics

(For more information on how graduate student teaching works here, feel free to contact Colin Shelton

colins3@uchicago.edu, who oversees our Pedagogical Training Plan.)

Teacher training at UChicago involves learning pedagogical theory, observing others teach, and taking command of a classroom on your own.

Most graduate programs in Classics give their students some opportunities to teach. This is what you can expect to teach in our program:

Practical Teaching Experiences 1) Drill Session Leader for First-Year Language Our #rst-year language courses o#cially meet 3 hours a week. However, we also schedule a less formal 4th hour so students can get extra practice where they most need it. We call this extra hour the "Drill Session". You will spend a quarter running this Drill Session in either Latin or Ancient Greek. This experience will give you a chance to start experimenting with designing activities, and running a classroom.

2) Main Teacher for First-Year Language You will also spend a quarter as the main teacher for a section of #rst-year Latin or Ancient Greek. You will build on the experience you gained as Drill Session Leader, as you practice connecting multiple days of instruction, and help students achieve the longterm goals laid out in our curriculum.

3) Drill Session Leader for Second-Year Language Second-year language courses also have a Drill Session. You will be Drill Session Leader for a quarter of second year language, so that you can get a sense of the special challenges that come from combining linguistic and cultural learning at the intermediate stage. You will typically get a chance to work in Ancient Greek if your #rstyear language experience was in Latin, or in Latin if you started out working in Ancient Greek.

4) Course Designer, and Main Teacher for Second-Year Language You will then design your own second-year language course, and get a chance to teach it. You will work closely with your colleagues, and the Language Program Coordinator, to design a course that aligns with our curricular goals. Then you will get a chance to road-test it, as it were. You will build on your previous teaching experiences by de#ning goals for your students, and helping them achieve them.

5) 6th Year Teaching Experience You will get one more teaching experience that moves beyond the language classroom. This may take many di#erent forms. For instance, it could involve teaching in the "Core" (UChicago's great books program), teaching a civilization course, teaching in another department, and/or teaching a course you have designed yourself.

In addition to giving our graduate students practical teaching experience, we also o#er sustained formal training and mentoring in how to teach. In this way, we di#er from some other graduate programs in Classics. These are the formal training components you can expect to take part in:

Formal Pedagogical Training Experiences: 1) Workshop: "Language Pedagogy for the Contemporary Classroom" This

quarter-long workshop is offered with the Chicago Language Center. The #rst half of the workshop is joint for both ancient and modern language teachers, and covers fundamental principles of language teaching and learning. In the second half of the workshop, ancient and modern languages divide into separate sections to discuss issues particular to their own disciplines. In the ancient language section, we focus on topics like the psychology of reading, best practice for grammar instruction, and the particular challenges of using authentic, non-pedagogical texts.

2) Workshop: "Teaching@" This workshop, o#ered by the Chicago Center for Teaching, orients new teachers to the policies, expectations, and environment of the University of Chicago.

3) Weekly Team Meetings for First-Year Language Teachers When you are Drill Session Leader, or Main Teacher for a #rst-year language course, a weekly meeting with your fellow instructors, and the Classics Language Program Coordinator, gives you chance to workshop ideas, and discuss emergent problems. The Language Program Coordinator is on hand to walk you through di#erent activity types, and explain the rationale for teaching strategies as varied as using spoken Latin, Englishto-Greek translation, or paradigm chanting.

4) Classics Course Design Working Group This Working Group brings together students who are designing their own classes. Working with the Language Program Coordinator, participants learn how to set realistic course goals and assess student progress towards them, as well as how to make courses accessible to a wider range of learners. Participants observe faculty teaching, and workshop their own syllabi and assignments. They have the chance to get feedback from peers and from professional teachers at the university.

5) Course: "Pedagogy of Writing" In preparation for the 6th year teaching experience, students take this one-quarter course in the university's Writing Center. The course shows how to build more e#ective writing assignments, and how to incorporate them into the wider framework of a course.

There are many additional workshops and courses that students can take in the Chicago Center for Teaching (CCT), the Chicago Language Center (CLC), and the Writing Center. Students who elect to teach in the Humanities Core also receive additional training from the Core program. The CCT and CLC also o#er certi#cate programs in areas like Inclusive Pedagogy.

## Programs of Study

The department offers Ph.D. degrees in Classical Languages and Literatures, the Ancient Mediterranean World, Ancient Greek and Roman Philosophy, and Transformations of the Classical Tradition, as well as a joint Ph.D. in Social Thought and Classics.

## Ph.D. Program in Classical Languages and Literatures

The success of any graduate program depends upon the quality and commitment of its students and faculty. The Classics Department of the University of Chicago consists of persons of diverse backgrounds and interests, active scholars who are expert in one or more areas of classical studies. Beyond the influence which members of the faculty have had individually through books and articles, the Department has also long been identified with the publication of Classical Philology (http://www.journals.uchicago.edu/toc/cp/current/), one of the world's leading journals devoted to classical antiquity.

The diversity of faculty interests is matched by the diversity among the students in the graduate programs at the University of Chicago. Students in the Department of Classics represent only one of several groups engaged in the study of the ancient world. The Oriental Institute (http://www-oi.uchicago.edu/Ol/default.html) and Divinity School (http://divinity.uchicago.edu/index.shtml/), the Committees on Medieval Studies (http://catalogs.uchicago.edu/divisions/ medieval.html), and Social Thought (http://catalogs.uchicago.edu/divisions/socthou.html), and the Departments of Art (http://arthistory.uchicago.edu/), History (http://history.uchicago.edu/), and Philosophy (http://philosophy.uchicago.edu/) all have programs which focus on different aspects of the classical period, and which attract students with correspondingly varied interests. Course requirements for the graduate program in Classics are sufficiently flexible that students can take advantage of the numerous opportunities offered by these other programs.

Consequently, Classics students are able to encounter a multiplicity of approaches to classical texts and modern scholarship. In addition to learning basic techniques of textual, historical, and literary criticism, they are encouraged to explore new approaches to classical literature, history, philosophy, religion, art, and archaeology. They may test their explorations by participating in interdisciplinary workshops where both students and faculty present and discuss current research. The Classics Department sponsors three workshops, the Ancient Societies Workshop (http://cas.uchicago.edu/workshops/ancientsocieties/), the Rhetoric and Poetics Workshop (http://lucian.uchicago.edu/workshops/ancientsocieties/), the Rhetoric and Poetics Workshops/agarp/), all of which meet biweekly, and is affiliated with the Late Antique and Byzantium Workshop (http://cas.uchicago.edu/workshops/lantbyz/) and the Medieval Studies Workshop. Computer facilities permit students to conduct precise analyses of texts and to communicate with scholars worldwide who share their interests. Students interested in ancient theater can acquire first-hand experience in producing and acting in classical plays as part of the University Theater Program. Archaeological field experience is available for those who are interested in the material basis of classical antiquity.

#### Ph.D. Program in the Ancient Mediterranean World

The Graduate Program in the Ancient Mediterranean World is designed to allow students to custom build an interdisciplinary course of study that satisfies their own intellectual interests while remaining true to the rigorous and thorough training that is expected of University of Chicago graduates.

The first two years of study towards the Ph.D. are spent engaged in coursework. In consultation with the PAMW Graduate Advisor, students will devise a program of courses that range across the Mediterranean and/or Near Eastern worlds. Students are expected to familiarize themselves with various aspects of the ancient world (literature, philosophy, history, art and archaeology, and religion) and are encouraged to explore various methodological and theoretical approaches derived from other disciplines, especially the social sciences. The centerpiece of the program in these first two years is the two-quarter Ancient Mediterranean Seminar, co-taught by two PAMW Faculty members, which is designed to introduce students to issues of historical method while studying a topic that changes annually.

At the end of the second year of study, students choose two Faculty members who will advise them as they prepare for the two written Field Examinations, which are sat in the course of the third year. The Field Examinations are intended to test requisite research skills in connection with specialized topics. Students are also expected to demonstrate competence in two modern languages (normally French and German) and two ancient languages before the end of their third year.

Once the Field Examinations are completed, the student assembles a Dissertation Committee of three faculty members. The Committee will assist the student in preparing a Dissertation Proposal, which must be presented before the end of the fourth year. Students are also required to enroll in the two-quarter dissertation proposal workshop. The final Dissertation is defended before members of the Department and interested members of other Departments. The curriculum is designed so that all requirements can be fulfilled within six years.

## Ph.D. Program in Ancient Greek and Roman Philosophy

The study of ancient Greek and Roman philosophy is inherently interdisciplinary. Scholars must be able to situate philosophical texts in their broader cultural context. They must also be alive to the way a given text engages with and contributes to its philosophical tradition. Finally, they must be able to communicate effectively with scholars trained in either classics or philosophy. Thus, students who plan to specialize in ancient philosophy ought to receive an interdisciplinary training. Since both classics and philosophy have exacting and distinct standards of disciplinary training, we decided to establish a program in which students will enroll in either the doctoral program in Classics or in the doctoral program in Philosophy but will be required to take certain courses in both departments. The program is a joint program, in the sense that the faculty of both departments are committed to training students in the other department in the ways specified below, and in that the students will develop a working relationship with each other, both through participation in seminars and in the Ancient Greek and Roman Philosophy Workshop (https://voices.uchicago.edu/agarp/).

Students enrolled in the Ph.D. degree in the Program in Ancient Greek and Roman Philosophy in the Classics Department are required to pass a total of 18 courses, of which 16 must be passed in the first and second years. At the end of the second year, students choose two faculty members to advise them on the oral examination, which must be taken by the end of the Winter Quarter of the third year of the Program. Once the examination is completed, students assemble a dissertation committee of three members. The committee will assist the student in preparing a dissertation proposal, which must be presented to the Classics Department faculty by the end of the Autumn Quarter of the fourth year. Students are expected to attend the Ancient Greek and Roman Philosophy Workshop throughout their enrollment in the program.

### Ph.D. Program in Transformations of the Classical Tradition

The PhD program in Transformations of the Classical Tradition enables students to approach the long history of classical thought and literature by following a course of study tailored to their particular interests.

The first two years of study towards the Ph.D. are spent on coursework. In consultation with the Director of Graduate Studies and the TCLT program Chair, students will devise a program of courses that focus on, but are not limited to, key texts in literature, philosophy, historiography, and political theory in either Greek or Latin, and the reception, development, and transformation of these texts in one of the modern languages. During their first two years, students must also satisfy the requirements for their second ancient and modern language.

Students entering the program are introduced to the methodological opportunities of studying the long history of the classical tradition in a two quarter introductory seminar, co-taught by two TCLT faculty members, one of whom will be a member of the Classics faculty, and the other from one of our partner disciplines: Art History, the Committee on Social Thought, Comparative Literature, Germanic Studies, History, Philosophy, Political Science, Romance Languages & Literatures, and the Divinity School. In the third year, students progress to an oral examination in their chosen field of study, followed by the dissertation proposal workshop, and the submission of the dissertation proposal. The fourth and fifth years are devoted to dissertation writing and the curriculum is designed so that all requirements can be fulfilled within six years.

#### The Joint Ph.D. Program in Social Thought and Classics

The **Joint Ph.D. Program in Social Thought and Classics** is intended for students whose study of a particular issue or text from the ancient Greek and Roman world requires a broadly inter-disciplinary approach alongside a professional mastery of philological skills.

Those interested in pursuing this joint degree program must first be admitted in *EITHER* the Committee on Social Thought (http://socialthought.uchicago.edu/) *OR* the Department of Classics (http://classics.uchicago.edu/home/) and must complete at minimum the two quarter language survey (Greek or Latin), offered by the Department of Classics, with an average grade of B or higher. A petition for admissions to the joint degree shall be made to the second department and provided that the standards of admission to that department are met, students will be admitted to joint degree status. They will not, however, be considered to have transferred into the second department and their original department will remain their sole department for purposes of administrative purposes, such as registration and financial aid (including dissertation fellowships). They will be assigned two faculty advisors, one whose primary appointment is in Social Thought, one whose primary appointment is in Classics. Students initially admitted to Classics will be expected to complete all requirements for the A.M. in Classical Languages and Literatures in their first year. Students initially admitted to Social Thought may complete the remaining requirements of the A.M. in Classical Languages and Literatures in full fulfill the requirements for the A.M. in both Social Thought and Classical Languages and Literatures (http://classics.uchicago.edu/graduate/classical-language-literature/), they will receive only one Master's degree from the University.

Students admitted to the joint degree program must satisfy both all the standard requirements for the Ph.D. in Classical Languages and Literatures and for the Ph.D. in Social Thought. The Social Thought language requirement of a high-level pass in a foreign language exam is met by the language requirements of the Classics program. The teaching requirements to be fulfilled are those of the Ph.D. in Classical Languages and Literatures. The dissertation proposal will have to be approved by both departments; the dissertation committee will normally include three professors, at least one of whom will come from each department. The committee chair should be a member either of Classics or the Committee on Social Thought, according to the enrollment of the student.

In order to ensure that the combination is genuine and rigorous, those students with joint degree status will be required to offer at least a majority of non-Classical texts on the Social Thought Fundamentals Examination (http:// socialthought.uchicago.edu/page/fundamentals-examination/). Students with joint degree status will be encouraged, in consultation with their advisors, to take courses on non-Classical subjects that will help prepare them for this examination.

Because of the difference in the way and extent to which the Classics and the Social Thought Ph.D. programs are regulated, the mode of access to joint degree status will vary, depending upon whether candidates enter into it from the one department or the other.

#### The Degree of Master of Arts

Students seeking a master's degree should apply to the Master of Arts Program in the Humanities (MAPH), a threequarter program of interdisciplinary study in a number of areas of interest to students. MAPH students take courses with students in the Ph.D. programs. Further details about the MAPH program are available at http://maph.uchicago.edu/

## Application

The application process for admission and financial aid for all graduate programs in the Division of the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with

instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/admissions (http://humanities.uchicago.edu/students/admissions/).

Questions about admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu/, or call them at (773) 702-7752.

## Courses

The two quarter surveys of Greek and Latin literature, and Greek and Latin prose composition, are offered in alternate years. The courses listed below are offered regularly, normally on a three-year rotating basis. In addition, new courses are frequently introduced, especially seminars and classics courses, and these cannot be predicted very far in advance. In recent years, courses included seminars on Early Rome, Tragedy and the Tragic, A History of Rhetoric, Greek Tragedy in Africa, Juvenal, The Ancient Economy, Oral Poetries, The Poetry of Death, Security in Latin Literature, Stoics and Epicureans, and Holderlin and the Greeks.

Greek

Iambic and Elegiac Poetry.

Greek Philosophy.

Greek Tragedy.

Lyric and Epinician Poetry.

Greek Epic.

Greek Oratory.

Hellenistic and Imperial literature.

Greek Comedy.

Greek Historians.

## Latin

Roman Elegy.

Roman Novel.

Virgil.

Post-Virgillian Epic

Roman Historians.

Roman Comedy.

Lucretius.

Roman Satire.

Roman Oratory.

## Classics Courses

#### CLAS 30100. Ancient Sparta. 100 Units.

From Herodotos to Hitler, ancient Sparta has continued to fascinate for its supposedly balanced constitution, its military superiority, its totalitarian ideology, and its brutality. Yet the image we possess of the most important state of the Peloponnese is largely the projection of outside observers for whom the objectification of Sparta could serve either as a model for emulation or as a paradigm of "otherness." This course will examine the extant evidence for Sparta from its origins through to its repackaging in Roman times and will serve as a case study in discussing the writing of history and in attempting to gauge the viability of a non-Athenocentric Greek history.

Instructor(s): J. Hall Terms Offered: Autumn

Equivalent Course(s): ANCM 33600, HIST 30302, HIST 20302, CLCV 20100

## CLAS 30404. Troy and Its Legacy. 100 Units.

This course will explore the Trojan War through the archaeology, art, and mythology of the Greeks and Romans, as well as through the popular imaginings of it in later cultures. The first half will focus on the actual events of the "Trojan War" at the end of the second millennium BCE. We will study the site of Troy, the cities of the opposing Greeks, and the evidence for contact, cooperation, and conflict between the Greeks and Trojans. Students will be introduced to the history of archaeology and the development of archaeological fieldwork. The second half will trace how the narrative and mythology of Homer's liad and the Trojan War were adapted and used by later civilizations, from classical Greece to twenty-first-century America, to justify their rises to political and cultural hegemony in the Mediterranean and the West, respectively. Instructor(s): M. Andrews Terms Offered: Spring

Equivalent Course(s): CLCV 20404, HIST 30404, HIST 20404, ANTH 26120, ARCH 20404, ANTH 36120

## CLAS 30420. Empire in Ancient World II. 100 Units.

Empire was the dominant form of regional state in the ancient Mediterranean. We will investigate the nature of imperial government, strategies of administration, and relations between metropole and regional powers in Persia, Athens, the Seleucid empire, and Rome.

Instructor(s): Cliff Ando Terms Offered: Winter Prerequisite(s): CLAS 30419

#### CLAS 31019. Ancient Stones in Modern Hands. 100 Units.

Objects from classical antiquity that have survived into the modern era have enticed, inspired, and haunted those who encountered or possessed them. Collectors, in turn, have charged ancient objects with emotional, spiritual, and temporal power, enrolling them in all aspects of their lives, from questions of politics and religion to those of race and sexuality. This course explores intimate histories of private ownership of antiquities as they appear within literature, visual art, theater, aesthetics, and collecting practices. Focusing on the sensorial, material, and affective dimensions of collecting, we will survey histories of modern classicism that span from the eighteenth century to the present, from the Mediterranean to the Pacific. Historical sources will include the writings of Johann Gottfried Herder, Johann Joachim Winckelmann, Emma Hamilton, Vernon Lee, and Sigmund Freud, among others; secondary source scholarship will draw from the fields of gender studies, the history of race, art history, and the history of emotions. We will supplement our readings with occasional museum visits and one proposal for a monument, museum, or school curriculum.

Instructor(s): S. Estrin & A. Goff Terms Offered: Winter

Prerequisite(s): Prerequisite: instructor consent required. Email both instructors describing your interest in the course, how it fits into your broader studies, and any relevant background (sestrin@uchicago.edu and agoff@uchicago.edu). This is a traveling seminar that includes a 4-day trip to visit California museum collections.

Note(s): Making History courses forgo traditional paper assignments for innovative projects that develop new skills with professional applications in the working world. A team-taught and interdisciplinary course; we welcome students from all backgrounds, with no previous experience in ancient art or modern history required.

Equivalent Course(s): HIST 39422, CLCV 21019, ARTH 30304, ARTH 20304, HIST 29422

#### CLAS 31515. Colloquium: Late Antique Mediterranean I. 100 Units.

Research problems in eastern, central, and western Mediterranean from the fourth to seventh century CE. Detailed investigation of relevant primary sources in Greek, Latin, and Arabic. Will continue in winter quarter. Equivalent Course(s): HIST 41005, NEHC 41005, ANCM 31515

#### CLAS 31516. Colloquium: Late Antique Mediterranean II. 100 Units.

Research problems in eastern, central, and western Mediterranean from the fourth to seventh century CE. Detailed investigation of relevant primary sources in Greek, Latin, and Arabic. In the winter quarter, we focus on research topics for the colloquium paper.

Equivalent Course(s): HIST 41006, NEHC 41006, ANCM 31516

## CLAS 31617. The Return of Homer: The Iliad and Odyssey in Contemporary English Language Fiction and Poetry. 100 Units.

The course will examine the extraordinary flowering of English language novels and poems based on the Homeric epics in the past quarter century. We will ask how different contemporary poets and prose writers have interpreted Homer's works and try to understand the appeal of this ancient poetry for modern authors, readers, and publishers. The reading will include such works as Margaret Atwood, The Penelopiad; Byrne Fone, War Stories: A Novel of the Trojan War; Christopher Logue, An Account of Homer's Iliad; David Malouf, Ransom; Zachary Mason, The Lost Books of the Odyssey; Madeline Miller, The Sone of Achilles; Alice Oswald, Memorial: A Version of Homer's Iliad; Lisa Peterson, An Iliad; Kate Quinn, et al., A Song of War; and Derek Walcott, Omeros. English translations of such foreign-language works as Alessandro Baricco's An Iliad Ismail Kadare's The Fijile on H. may also be considered if students wish. Equivalent Course(5): SCTH 31614

#### CLAS 31718. Socrates, Plato and Aristotle on Courage. 100 Units.

What is courage? Is it: doing what you should do, even when you are afraid? Can you be courageous without being afraid? Can you be courageous and know that you are doing the right thing? Can you be courageous if you are not in fact doing the right thing? Can you be courageous? Could you be courageous if you weren't afraid to die? Courage is, arguably, the queen of the virtues. In this class, we will use some Socratic dialogues (Laches, Protagoras, Republic, Phaedo) and some Aristotelian treatises (Nicomachean Ethics, Eudemian Ethics) as partners in inquiry into the answers to the questions listed above. (A)

Instructor(s): A. Callard Terms Offered: Autumn

Prerequisite(s): Students who are not enrolled by the start of term but wish to enroll must (a) email the instructor before the course begins and (b) attend the first class.

Equivalent Course(s): CLCV 21718, PHIL 21717, PHIL 31717

## CLAS 31919. Plato's Representation of Socrates. 100 Units.

This course is intended for students who have already read a fair amount of Plato (usually in English), and are still wondering what to make of it. Readings will include the 7th Letter and particular dialogues to be chosen in consultation with the class as we go along. Topics will include the relevant 4th c. context, also the representation of 5th c. society, also Plato's biography, the Academy, Plato's competitors, the origins and development of the dialogue form, others which may turn up in discussion. The Bollingen Complete Works of Plato has been ordered through the Seminary Coop.

Instructor(s): James Redfield Terms Offered: Winter. Course will be taught winter 2020.

Note(s): This is a graduate seminar open to undergrads by consent.

Equivalent Course(s): SCTH 31931

#### CLAS 32514. Markets and Moral Economies. 100 Units.

This course examines the ways in which economic behavior in the Roman Empire was informed by, and itself came to inform, social and religious mores and practices. We will explore the interrelationship between culture and economy from the accession of Augustus to late antiquity and the conversion of the empire to Christianity. Particular attention will be given to Roman attitudes towards labor, the ethical issues surrounding buying and selling, and alternative allocative mechanisms to the market. Of constant concern will be the tension between the perspectives and prejudices of elites, which stand behind so much surviving literary evidence, and the realities of everyday commerce and economic life as they can be glimpsed in the archaeological and epigraphic record.

Instructor(s): L. Gardnier Terms Offered: Autumn

Equivalent Course(s): CLCV 22514

## CLAS 32914. The Italian Renaissance. 100 Units.

Florence, Rome, and the Italian city-states in the age of plagues and cathedrals, Dante and Machiavelli, Medici and Borgia (1250-1600), with a focus on literature and primary sources, the recovery of lost texts and technologies of the ancient world, and the role of the Church in Renaissance culture and politics. Humanism, patronage, translation, cultural immersion, dynastic and papal politics, corruption, assassination, art, music, magic, censorship, religion, education, science, heresy, and the roots of the Reformation. Assignments include creative writing, reproducing historical artifacts, and a live reenactment of a papal election. First-year students and non-history majors welcome.

Instructor(s): A. Palmer Terms Offered: Spring

Equivalent Course(s): ITAL 32914, KNOW 21405, RLST 22900, KNOW 31405, HIST 22900, MDVL 22900, CLCV 22914, ITAL 22914, HCHR 32900, HIST 32900

#### CLAS 33520. Pity: What's the good of it. 100 Units.

Andromache famously appealed to her husband Hector to take pity on herself and her infant son, and not go out to fight the Greeks; Hector took pity, but said no. What happened to pity since Homer? Aristotle recognized as an essential feature of tragedy, along with fear. Surprisingly, however, it did not enter Greco-Roman political theory except for one short, little noticed mention: Lucretius placed pity for the weak at the foundation of the Epicurean view of justice. This course will delve into the notion of pity from antiquity to Schopenhauer, with attention to Greeks, Romans, Christians, the period of the Enlightemment, and the Romantics. We will ask: can pity serve as the foundation of morality, as Schopenhauer proposed; or is it shameful, or self-serving?

Instructor(s): E. Asmis Terms Offered: Winter

Equivalent Course(s): ANCM 43520, CLCV 23520, BIBL 33520, RLST 23520

## CLAS 33608. Aristophanes's Athens. 100 Units.

The comedies of Aristophanes are as uproarious, biting, and ribald today as they were more than 2,400 years ago. But they also offer a unique window onto the societal norms, expectations, and concerns as well as the more mundane experiences of Athenians in the fifth century BCE. This course will examine closely all eleven of Aristophanes's extant plays (in translation) in order to address topics such as the performative, ritual, and political contexts of Attic comedy, the constituency of audiences, the relationship of comedy to satire, the use of dramatic stereotypes, freedom of speech, and the limits of dissent. Please note that this course is rated Mature for adult themes and language. Instructor(s): J. Hall Terms Offered: Winter

Equivalent Course(s): FNDL 23608, LLSO 20803, HIST 20803, HIST 30803, ANCM 33900, CLCV 23608

## CLAS 33616. Homer's Odyssey: Estrangement and Homecoming' 100 Units.

One of the two foundational epics of so-called Western Culture, the Odyssey features a wily hero whose journeys are extraordinary and whose longing for home is unbounded. The Odyssey offers a complex meditation on brotherhood, bestiality, sexuality, kinship, and power; it is the great epic of cross-cultural encounter, in all its seductive and violent aspects, as well as the great poem of marriage. An adventure in nostos (homecoming), the Odyssey shows us the pleasures and dangers of voyaging among strangers. Constantly exploring the boundaries between the civilized and the savage, the poem offers as well a political critique of many ancient institutions, not least the family patriarchy, hospitality customs, and the band-of-brothers so central to epic ideology. And as a masterwork of narrative art, the Odysseyaks us to consider the relation of fiction to "truth." We will explore these and other matters in the Odyssey, and may make a concluding foray into contemporary re-workings of Odyssean themes and characters.

Equivalent Course(s): FNDL 21223, SCTH 31223

## CLAS 33815. Plato's Legacies. 100 Units.

Some of the most significant efforts to question political theory's core concepts, unsettle its approaches, and expose its dangerous ideals have depended on major re-interpretations of Plato's thought. This course investigates the broad critical impulse to treat Plato as the originator of political positions and interpretive assumptions that late modernity frequently seeks to critique and less often to celebrate. We consider the charges of essentialism, authoritarianism, and foundationalism, among others, and ask to what (if any) extent considerations of the texts' historical contexts and dramaturgical conditions have factored into these assessments. Readings will include works by Popper, Strauss, Arendt, Derrida, Castoriadis, Wolin, Irigaray, Cavarero, Butler, and Rancière alongside Plato's dialogues. Students are expected to be familiar with Plato's thought upon enrolling.

Instructor(s): D. Kasimis Terms Offered: Spring Equivalent Course(s): PLSC 43801

CLAS 33820. Debating Christians and Other Adversaries: Greek and Syriac Dialogues in Late Antiquity. 100 Units.

This course will examine the composition and significance of dialogues for Christian polemic and identity formation. The quarter will begin with an overview of dialogues from Classical Antiquity before examining the new directions Christian writers followed as they staged debates with pagans, Jews, Manichaeans, and alleged "heretical" Christians. Reading these works in light of modern scholarship and with an eye to late antique rhetoric, students will gain insights into the ways theological development took place in the crucible of debate.

Instructor(s): Erin Galgay Walsh Terms Offered: Autumn

Equivalent Course(s): CLCV 23820, HCHR 40360, BIBL 40360, RLST 20360

#### CLAS 35014. Winckelmann: Enlightenment Art Historian and Philosopher. 100 Units.

We approach the first great modern art historian through reading his classic early and mature writings and through the art and criticism of his time (and at the end, our own). Reading-intensive, with a field trip to the Art Institute. Instructor(s): Andrei Pop Terms Offered: Autumn

Prerequisite(s): German reading competence helpful, but NOT required.

Equivalent Course(s): GRMN 35015, SCTH 35000, KNOW 35000, ARTH 35115, GRMN 25015, ARTH 25115

## CLAS 35319. Gender and Sexuality in Late Antiquity: Precursors and Legacies. 100 Units.

In this course students will trace how gender was theorized and normative behavior was prescribed and enforced in the ancient world. We will begin with materials from the Greco-Roman world, Hebrew Bible, and the Second Temple Period. As the quarter progresses, we will turn our attention to early and late ancient Christian authors, focusing on the way asceticism and emergent ecclesial institutions shaped the lives of women and gender non-conforming individuals. Throughout the course students will learn to navigate the pitfalls and opportunities the study of gender affords for understanding the development of biblical interpretation, the transformation of classical Graeco-Roman culture, and the formation of Christian authors approach questions of sexuality differently? Along the way we will bring 20th-century theorists of sexuality and gender into our conversations to illuminate pre-modern discourses of virginity, sexual experience, and identity. Primarily we will approach texts through a historical lens while paying attention to the theological and ethical issues involved. At the end of the course we will examine the legacy of late ancient debates, tracing how earlier teaching about gender and sexuality co-exists with, challenges, and informs modern secular worldviews.

Instructor(s): Erin Galgay Walsh Terms Offered: Autumn

Prerequisite(s): No languages are required, but there will be ample opportunity for students with skills in Greek, Latin, Syriac, and Hebrew to use them.

Equivalent Course(s): GNSE 42910, GNSE 22910, CLCV 25319, RLST 22910, BIBL 42910

#### CLAS 35513. Anagnorisis and the Cognitive Work of Theater. 100 Units.

In the Poetics Aristotle conceives anagnorisis or recognition as one of the three constitutive parts of the dramatic plot and defines it as the "a change from ignorance (agnoia) to knowledge (gnosis)." Implying the rediscovery of something previously known anagnorisis refers to the emplotment and staging of a certain kind of cognitive work characteristic of theater (as a locus of theoria or theory). For recognition is not only required of the dramatis personae on stage but also of the spectators who need to (re)-cognize a character whenever s/he enters. Just as the characters' anagnorisis isn't restricted to the filiation, i.e., identity, of other characters the audience's cognition concerns the understanding the plot as a whole. In short, by focusing on anagnorisis we can gain insight in the specific cognitive work of theater (and drama). Naturally we will begin in antiquity and examine the instantiation of recognition in Homer's Odyssey and several Greek tragedies as well as its first theorization in Aristotle's Poetics. Then we will jump to the modernes, specifically Enlightenment theater's obsession with anagnorisis of German bourgeois and classical theater test the Enlightenment's claim to reason and reform of human cognition. Our last stop will be Brecht's theater of "Entfremdung" that makes the alienation at the heart of anagnorisis into the centerpiece of his aesthetic and political project. If we have time, we will also take a look at comical recognition as self-reflection of its tragic counterpart. Readings and discussions in English. Instructor(s): C. Wild Terms Offered: Autumn

## CLAS 36119. Muses and Saints: Poetry and the Christian Imagination. 100 Units.

This course provides an introduction to the poetic traditions of early Christians and the intersection between poetic literature, theology, and biblical interpretation. Students will gain familiarity with the literary context of the formative centuries of Christianity with a special emphasis on Greek and Syriac Christians in the Eastern Mediterranean from the fourth through the sixth centuries. While theology is often taught through analytical prose, theological reflection in late antiquity and early Byzantium was frequently done in poetic genres. This course introduces students to the major composers and genres of these works as well as the various recurrent themes that occur within this literature. Through reading poetry from liturgical and monastic contexts, students will explore how the biblical imaginations of Christians were formed beyond the confines of canonical scripture. How is poetry a mode of "doing" theology? What habits of biblical interpretation and narration does one encounter in this poetry? This course exposes students to a variety of disciplinary frameworks for studying early Christian texts including history, religious studies, feminist and literary critique, as well as theology. Students will also analyze medieval and modern poetry with religious themes in light of earlier traditions to reflect on the poetry and the religious imagination more broadly.

Instructor(s): Erin Galgay Walsh Terms Offered: Spring

Note(s): Open to undergraduate and graduate students; Graduate students may choose to attend weekly translation group Equivalent Course(s): RLVC 33000, CLCV 26119, ENGL 33809, HCHR 33000, RLST 23000, MDVL 23000, GNSE 34104, BIBL 33000, GNSE 24104

## CLAS 36618. Cities and Urban Space in the Ancient World. 100 Units.

Cities have been features in human landscapes for nearly six thousand years. This course will explore how cities became such a dominant feature of settlement patterns in the ancient Mediterranean and Near East, ca. 4,000 BCE-350 CE. Was there an "Urban Revolution," and how did it start? What various physical forms did cities assume, and why did cities physically differ (or not) from each other? What functions did cities have in different cultures of the past, and what cultural value did "urban" life have? How do past perspectives on cities compare with contemporary ones? Working thematically and using theoretical and comparative approaches, this course will address various aspects of ancient urban space and its occupation, with each topic backed up by in-depth analysis of concrete case studies. Instructor(s): M. Andrews Terms Offered: Spring

Equivalent Course(s): ANCM 36618, ENST 20805, HIST 20805, CLCV 26618, HIST 30805, ARCH 20805

## CLAS 36620. Making the Monsoon: The Ancient Indian Ocean. 100 Units.

The course will explore the human adaptation to a climatic phenomenon and its transformative impacts on the littoral societies of the Indian Ocean, circa 1000 BCE-1000 CE. Monsoon means season, a time and space in which favorable winds made possible the efficient, rapid crossing of thousands of miles of ocean. Its discovery-at different times in different places-resulted in communication and commerce across vast distances at speeds more commonly associated with the industrial than the preindustrial era, as merchants, sailors, religious specialists, and scholars made monsoon crossings. The course will consider the participation of Mediterranean, Middle Eastern, South Asian, and East African actors in the making of monsoon worlds and their relations to the Indian Ocean societies they encountered; the course is based on literary and archaeological sources, with attention to recent comparative historiography on oceanic, climatic, and global histories.

Instructor(s): R. Payne Terms Offered: Spring

Equivalent Course(s): HIST 26614, CLCV 26620, NEHC 36614, MDVL 26614, SALC 26614, HIST 36614, NEHC 26614, SALC 36614

#### CLAS 36720. Leo Strauss and Lucretius On the Nature of Things. 100 Units.

I shall discuss Leo Strauss's "Notes on Lucretius" (1968) and Lucretius' DE RERUM NATURA with a special focus on the relation of philosophy and poetry.

Terms Offered: Spring. Course will be taught spring 2021 Note(s): Undergrads with consent only.

Equivalent Course(s): SCTH 37323, PLSC 37323, FNDL 27323, PHIL 37323

CLAS 37009. Theories of Narrative. 100 Units. Equivalent Course(s): CMLT 38300, REES 33158, CMLT 21300

## CLAS 37316. The Humanities as a Way of Knowing. 100 Units.

Despite intertwined histories and many shared practices, the contemporary humanities and sciences stand in relationships of contrast and opposition to one another. The perceived fissure between the "Two Cultures" has been deepened by the fact that the bulk of all history and philosophy of science has been devoted to the natural sciences. This seminar addresses the history and epistemology of what in the nineteenth century came to be called the "sciences" and the "humanities" since the Renaissance from an integrated perspective. The historical sources will focus on shared practices in, among others, philology, natural history, astronomy, and history. The philosophical source will develop an epistemology of the humanities: how humanists know what they know.

Equivalent Course(s): HIST 39517, KNOW 40303, PHIL 30925, PHIL 20925, SCTH 30925, HIST 29517, CHSS 30925

#### CLAS 37320. Greek Archaeology in 20 Objects. 100 Units.

This course centers the objects of the ancient Greek world, from prehistory to the Hellenistic period, as avenues for exploring the practice, history, and motivations of the discipline of Greek archaeology. From the mundane to the spectacular, we will closely consider twenty things - pots, statues, coins, knives, bones, inscriptions, among others - whose compelling if fragmentary biographies reveal how archaeologists reconstruct and explain ancient social lives. Discussions will interrogate histories of object analysis, identification, and interpretation; schemes of periodization and categorization; theories of gender, class, economy, politics, and religion; developments in technologies and aesthetics; the intersections of artifact discovery and museum or market acquisitions; and the making of Greek archaeology within the wider discipline. Instructor(s): C. Kearns Terms Offered: Winter

Equivalent Course(s): CLCV 27320

## CLAS 37716. Exemplary Leaders: Livy, Plutarch, and Machiavelli. 100 Units.

Cicero famously called history the "schoolmistress of life." This course explores how ancient and early modern authorsin particular, Livy, Plutarch, and Machiavelli-used the lives and actions of great individuals from the Greek and Roman past to establish models of political behavior for their own day and for posterity. Such figures include Solon, Lycurgus, Alexander, Romulus, Brutus, Camillus, Fabius Maximus, Scipio Africanus, Julius Caesar, and Augustus. We will consider how their actions are submitted to praise or blame, presented as examples for imitation or avoidance, and examine how the comparisons and contrasts established among the different historical individuals allow new models and norms to emerge. No one figure can provide a definitive model. Illustrious individuals help define values even when we mere mortals cannot aspire to reach their level of virtue or depravity. Course open to undergraduates and graduate students. Readings will be in English. Students wishing to read Latin, Greek, or Italian will receive support from the professors.

Instructor(s): J. McCormick, M. Lowrie Terms Offered: Winter

Equivalent Course(s): PLSC 47703, PLSC 27703, FNDL 27716, CLCV 27716

## CLAS 38020. Platonic Aesthetics. 100 Units.

The anachronism of the course title constitutes our program: to what extent can Plato's thinking about artworks, images, poets in the polis, beauty, the visual world, the senses, subjectivity and criticism be viewed coherently as an aesthetic theory? Does his style and dramatic mode of writing interact significantly with these views? How have they been received, and to what extent are they right?

Instructor(s): Andrei Pop Terms Offered: Winter. Course to be taught winter 2021 Equivalent Course(s): SCTH 35009, FNDL 29005

#### CLAS 39200. Mimesis. 100 Units.

This course will examine one of the central concepts of comparative literature: mimesis (imitation). We will investigate traditional theoretical and historical debates concerning literary and visual mimesis as well as more recent discussions of its relation to non-western and colonial contexts. Readings will include Aristotle, Auerbach, Butler, Spivak, and Taussig. Students are encouraged to write final papers on their own research topics while engaging with issues discussed through the course.

Instructor(s): T. Chin Terms Offered: Winter 2013 Equivalent Course(s): CMLT 30202, EALC 30100

#### CLAS 40018. Varieties of the Sublime in Ancient Greek and Roman Thought. 100 Units.

When one thinks about the "Sublime", one ancient text stands out as foundational: Longinus' On the Sublime. This text had a profound influence on modern aesthetics. It is, however, only part of a rich tradition of ancient ideas about sublimity. This seminar will examine this tradition, which embraces philosophy, religion, and art. The aim of the class is to disentangle various strands of the sublime and examine their interrelationships. Our readings will take us from Plato to the Neoplatonists. They will include: Plato's Symposium and Phaedrus; selections from the Epicurean Philodemus and the Stoics; Apuleius' Story of Cupid and Psyche and book 11 of his Metamorphoses; and selections from Plotinus, Porphyry, and Proclus' Commentary on Plato's Republic. The topics will include: religious initiation, the use of allegory, and theories of visual and literary beauty. Knowledge of Greek and Latin is not required; but special sessions will be arranged for those who wish to read Greek or Latin texts. Open to undergraduates with the permission of the instructor.

Instructor(s): E. Asmis Terms Offered: Spring Equivalent Course(s): BIBL 40018

## CLAS 40117. The Commons & the Public: Figuring Collaborative Knowledge Production. 100 Units.

Starting with Roman Law and moving up to contemporary critiques of intellectual property, this seminar explores new ways of conceptualizing collaborative forms of knowledge production that have been typically referred to as "commons". We do so by following a series of parallel and intersecting questions, starting with those concerning what the commons are about: What were the traditional commons of things or resources (public lands, public spaces, fisheries, pastures, forests)? What are the new commons of knowledge (academic publications, free software, wikipedia, etc)? And what is the relationship between infrastructures (roads, harbors, Internet, and the commons)? We then look at the changing configurations of human actors associated with the commons, that is, the differences between the communities associated with the traditional commons of traditional resources and the publics, counterpublics, multitudes, and crowds, that are now associated with collaborative forms of knowledge making and political action. We try, in sum, to conceptualize the relationship between the new knowledge commons and new notions of the public. This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. No instructor consent is required, but registration is not final until after the 1st week in order to give Ph.D. students priority. Equivalent Course(s): KNOW 40102

#### CLAS 40820. Hymns and Sanctuaries in Ancient Greece. 100 Units.

This two-quarter seminar, which fulfils the seminar requirement for graduates in History and Classics, seeks to explore how we might reconstruct the religious experience of the ancient Greeks through texts in translation (especially hymns), inscriptions, and material culture, paying particular attention to issues of methodology. The first quarter will be devoted to guided reading and discussion, focused on individual sanctuary sites, while the second quarter will be reserved for writing a major research paper. Non-Classics students will also be permitted to enroll for just the first quarter by arrangement with the instructors.

Instructor(s): C. Faraone, J. Hall Terms Offered: Autumn Equivalent Course(s): HIST 50300

#### CLAS 40821. Hymns and Sanctuaries in Ancient Greece. 100 Units.

This two-quarter seminar, which fulfils the seminar requirement for graduates in History and Classics, seeks to explore how we might reconstruct the religious experience of the ancient Greeks through texts in translation (especially hymns), inscriptions, and material culture, paying particular attention to issues of methodology. The first quarter will be devoted to guided reading and discussion, focused on individual sanctuary sites, while the second quarter will be reserved for writing a major research paper. Non-Classics students will also be permitted to enroll for just the first quarter by arrangement with the instructors.

Instructor(s): C. Faraone; J. Hall Terms Offered: Winter Equivalent Course(s): HIST 50301

#### CLAS 41216. Aristophanes' Clouds and Plato's Gorgias. 100 Units.

An inquiry into Socrates based on two contrasting works. Equivalent Course(s): SCTH 31926

#### CLAS 41415. Seminar: Late Antique Mediterranean 1. 100 Units.

Research problems in eastern, central, and western Mediterranean from the fourth to seventh century CE. Detailed investigation of relevant primary sources in Greek, Latin, and Arabic. Will continue in winter quarter. Equivalent Course(s): ANCM 41415, HIST 71005

#### CLAS 41416. Seminar: Late Antique Mediterranean 2. 100 Units.

In the winter quarter we focus on research topics for the seminar paper. Equivalent Course(s): HIST 71006, ANCM 41416

## CLAS 41616. Case Studies on the Formation of Knowledge-I. 100 Units.

The KNOW core seminars for graduate students are offered by the faculty of the Stevanovich Institute on the Formation of Knowledge. This two-quarter sequence provides a general introduction, followed by specific case studies, to the study of the formation of knowledge. Each course will explore 2-3 case study topics, and each case study will be team-taught within a "module." A short research paper is required at the end of each quarter. Graduate students from every field are welcome. Those who take both quarters are eligible to apply for a SIFK 6th-year graduate fellowship. For more information, please email your questions to sifk@uchicago.edu Module 1 : Approaches to Knowledge Shadi Bartsch, Jack Gilbert The goal of this module is to identify central issues or debates in the theory of knowledge over the past century. Students will be introduced to basic issues in the sociology of knowledge, to the arguments for and against constructivist perspectives on knowledge, and to 21st century scientific standards for knowledge production. The course should provide students with a vocabulary and conceptual tools with which they argue about these issues and reflect upon the very conceptual tools they are using. Module 2: Democratic Knowledge Shadi Bartsch, Will Howell This module offers a variation on studies of the epistemic powers of democracy. Instead of asking questions such as how effective democracies are at gathering the knowledge they need to function, the module looks at

## CLAS 41717. The Mediterranean Sea in Antiquity: Imperial Connections. 100 Units.

The Mediterranean Sea has long inspired imaginings of lands and peoples connected by its waters. From the Romans' Mare Nostrum, "our sea," to today's variants of "middle sea" - Greek Mesogeios, German Mittelmeer, and of course, Latin Mediterranean - imaginations of the sea have often celebrated its spatial and social cohesion. The Mediterranean continues to possess a middling geopolitical identity today, situated as it is between continental Europe, the Aegean, the Middle East, and North Africa. And yet, despite our diachronic investment in recognizing the Mediterranean's grand narrative as a locus of cultural connectivity, its long-term histories of interregional dynamics remain difficult to approach holistically. This concern is especially salient when it comes to the study of ancient empires, those large, expansionary polities whose social, political, and economic practices drew disparate groups together, and at times forced them apart. This class has two closely related objectives. First, we tackle the most ambitious pieces of scholarship on Mediterranean history to evaluate how various disciplines have sought to analyze and to bound the sea as a cartographic whole. In the process, we gain an appreciation not only for the methodological and interpretive scales involved in such an undertaking, but for the various disciplinary strategies the Mediterranean's diverse histories have inspired. Second, we interrogate one sociopolitical structure - the empire - and question how the Mediterranean encouraged and challenged imperialism as a recurring formation that worked to maintain sovereignty across broad geographical expanses. In doing so, we explore the variegated processes of cultural connectivity that have characterized the ancient Mediterranean form east to west.

Equivalent Course(s): ANTH 46715, CDIN 41717, HIST 51300, ANCM 41717, NEHC 40020

## CLAS 42020. Tragedy and Philosophy. 100 Units.

Ancient Greek tragedy has been of continuous interest to philosophers, whether they love it or hate it. But they do not agree about what it is and does, or about what insights it offers. We will study the tragic festivals and a select number of tragedies, also consulting some modern studies of ancient Greek tragedy. Then we shall turn to philosophical accounts of the tragic genre, including those of Plato, Aristotle, the Greek and Roman Stoics (especially Seneca), Lessing, Schlegel, Hegel, Schopenhauer, Nietzsche, Iris Murdoch, Sartre, and Bernard Williams. If we have time we will include some study of ancient Greek comedy and its philosophical significance. Admission by instructor permission and it must be sought in email by September 15. Prerequisite: An undergrad major in philosophy or some equivalent solid philosophy preparation, plus permission. Law students with ample philosophical background are welcome to enroll but should ask me first. Undergraduates may not enroll. Knowledge of Greek is not required at all, but if you do know Greek, bring the Greek texts of works whose original is Greek along with the translations. If needed, try to use the Loeb Classical Library facing-page translations. Students will write a 25 page seminar paper. This class follows the Law School calendar and will begin the week of September 21.

#### Instructor(s): M. Nussbaum Terms Offered: Autumn

Prerequisite(s): Admission by permission of the instructor. Permission must be sought in writing by September 15. An undergraduate major in philosophy or some equivalent solid philosophy preparation, plus my permission. This is a 500 level course. Ph.D. students in Philosophy, Classics, and Political Theory may enroll without permission. Law students with ample philosophical background are welcome to enroll but should ask me first. Undergraduates may not enroll. Equivalent Course(s): RETH 50250, PLSC 42020, PHIL 50250

## CLAS 42600. Ekphrasis: Art & Description. 100 Units.

This course explores the rich tradition of ekphrasis in Greco-Roman and Christian antiquity - as it ranges from vivid description in general to a specific engagement with works of art. While the prime focus will remain on texts from Greece and Rome (both prose and verse) - in order to establish what might be called the ancestry of a genre in the European tradition -- there will be opportunity in the final paper to range beyond this into questions of religious writing about art, comparative literature, art (history) writing and ekphrasis in other periods or contexts. The course is primarily intended for graduates - and a reading knowledge of Greek and Latin could not be described as a disadvantage! The course will be taught over 5 weeks in the Spring Quarter on an intensive schedule. It will be examined on the basis of a paper, due on a subject to be agreed and on a date to be agreed at the end of the Spring quarter.

Instructor(s): J. Elsner Terms Offered: Spring

Equivalent Course(s): NTEC 40400, ARTH 40400, RLVC 40400, BIBL 40400

## CLAS 42720. The Return of Migration: Mobility and the New Empiricism. 100 Units.

This seminar questions the prerogatives of disciplines in framing and explaining social change via mobility. Following earlier theories of diffusion to understand diachronic cultural change, and the subsequent contextual critiques that privilege historical contingencies and human agency, advances in identifying past human movement through techniques like ancient DNA genome testing have increasingly led to the revival of migration as a subject of focus and explanation. As growing interest in contemporary refugee and forced migration studies is showing, migration represents not just a wide-ranging practice of different types, but is a semantically charged and ambiguous term whose recent applications provide new opportunities to assess its interpretive advantages and limitations. Is the new empirical emphasis on migration re-racializing antiquity? What do we gain by studying concepts of diasporas, transnationalism, and border crossings in the premodern world? Why does migration matter? Divided into two parts, the course covers the conceptual and theoretical work in current literature on migration as well as applications to specific historical problems from ancient and modern Eurasia. Instructor(s): James Osborne and Catherine Kearns Terms Offered: Winter

Equivalent Course(s): CDIN 42720, HIST 50500, NEHC 42720

#### CLAS 42815. Aeschylus and the Birth of Drama. 100 Units.

In this advanced seminar we will undertake an in-depth study of different aspects of the surviving corpus of Aeschylus (including meter, dialect, narrative, thematics, plot-construction, and ritual context), while placing it in a comparative context of early forms of drama and varieties of choral performance attested across the world. In addition to discussing all of Aeschylus's surviving works in English translation, we will read at least two of his plays in Greek (most likely, Agamemnon and Seven Against Thebes). We will also read important scholarship on Aeschylus. Advanced knowledge of Greek is a prerequisite.

Equivalent Course(s): CMLT 42804

#### CLAS 44300. The Iliad. 100 Units.

In this course we will read the ILIAD in translation, supplemented by selections from the ODYSSEY and other texts from the archaic period, including the Epic Cycle fragments and the Hesiodic CATALOGUE OF WOMEN. We will also make some turns toward recent Iliadic ventures in English: not least Christopher Logue's WAR MUSIC and Alice Oswald's MEMORIAL. "The poem of force" according to Simone Weil, the ILIAD is also the poem of marriage, homosociality/ the "Mannerbund", and exchange. Among our concerns will be: the poetics of traditionality; the political economy of epic; the ILIAD's construction of social order; the uses of reciprocity; gender in the Homeric poems. Although no knowledge of Greek s required for this course, there will be assignment options for those who wish to do reading in Greek. Instructor(s): Laura Slatkin Terms Offered: Spring. course will be taught spring 2020 Prerequisite(s): Requirements: weekly readings; response paper for each class meeting; final paper.

Equivalent Course(s): SCTH 31210, FNDL 21214

#### CLAS 44512. Virgil, The Aeneid. 100 Units.

A close literary analysis of one of the most celebrated works of European literature. While the text, in its many dimensions, will offer more than adequate material for classroom analysis and discussion, attention will also be directed to the extraordinary reception of this epic, from Virgil's times to ours.

Instructor(s): G. Most Terms Offered: Winter 2013

Prerequisite(s): Latin helpful

Equivalent Course(s): CMLT 35902, SCTH 35902, ENGL 35902

#### CLAS 44519. Classical Reception Studies: Key Texts and Ideas. 100 Units.

Classical Reception Studies: Key Texts and Ideas Antiquity never really ended. Ancient texts, images, and ideas have continued traveling widely - from Baghdad to Toledo, from Rome to Tokyo - and they are still with us today in our daily lives, not just in literature and art but also in politics and propaganda. How can we study and understand the continued presence of ancient Greece and Rome? One of the still dominant approaches, which has emerged since the 1990s, is classical reception studies'. While this label might suggest a homogenous field of study, the field's methods and theoretical positions are quite diverse. This seminar works towards a better understanding of the different theoretical orientations in classical reception scholarship. We will discuss a selection of key texts of classical reception studies by, among others, Charles Martindale, Simon Goldhill, and Edith Hall. How do they conceptualize 'reception'? What is understood by 'the classical'? What traditions of research and thought do they respond to? And how do different approaches to reception relate to ideas about classical 'influence', 'tradition', and 'legacy'? The course is open to graduate students from various humanities disciplines interested in the many ways in which ancient texts, images, and ideas have been transmitted, interpreted, and reused in later periods. All texts will be made available.

Instructor(s): Han Lamers Terms Offered: Spring Equivalent Course(s): KNOW 44519, CLCV 25019

## CLAS 44916. The Discovery of Paganism. 100 Units.

How do we know what we know about ancient religions? Historians of religion often begin by turning to texts: either sacred texts, or, in the absence of such scriptures, descriptions of belief and practice by observers from outside the faith. Archaeologists focus their attention on the spaces and traces of religious practice-or at least those that survive-while art historians begin by examining images of deities and religious rites. Yet we often fail to see the extent to which the questions which we ask of all of these diverse sources are conditioned by Christian rhetoric about pagan worship. In this course, we compare two moments when Christians encountered "pagans": during the initial Christian construction of a discourse on paganism (and, more broadly, a discourse on religion) during the late Roman empire and during the Spanish discovery of the New World. Our course examines silences and absences in the textual and material records, as well as the divergences between texts and objects, in order to further our understanding of ancient religious practice. We will begin to see the many ways in which, as scholars of religion, we are in effect still Christian theologians, paving the way for new approaches to the study of ancient religion.

Equivalent Course(s): ARTH 40310, LACS 40301, CDIN 40301, ANCM 44916, HREL 40301, KNOW 40301, HIST 64202

## CLAS 45116. Seminar: Patronage and Culture in Renaissance Italy and Her Neighbors I. 100 Units.

A two-quarter research seminar; the first quarter may be taken separately as a colloquium with the instructor's permission. The great works of literature, philosophy, art, architecture, music, and science which the word "Renaissance" invokes were products of a complex system of patronage and heirarchy, in which local, personal, and international politics were as essential to innovation as ideas and movements. This course examines how historians of early modern Europe can strive to access, understand, and describe the web of heirarchy and inequality that bound the creative minds of Renaissance Europe to wealthy patrons, poor apprentices, distant princes, friends and rivals, women and servants, and the many other agents, almost invisible in written sources, who were vital to the production and transformation of culture. Equivalent Course(s): ITAL 41503, HIST 81503, KNOW 41402

## CLAS 45117. Seminar: Patronage and Culture in Renaissance Italy and Her Neighbors II. 100 Units.

The second quarter is mainly for graduate students writing a seminar research paper. Equivalent Course(s): HIST 81504, KNOW 41403, ITAL 41504

#### CLAS 45613. Hölderlin and the Greeks. 100 Units.

The German poet Friedrich Hölderlin submitted to the paradoxical double-bind of Johann Joachim Winckelmann's injunction that "the only way for us [Germans] to become great or-if this is possible-inmitable, is to imitate the ancients." As he wrote in his short essay "The standpoint from which we should consider antiquity," Hölderlin feared being crushed by the originary brilliance of his Greek models (as the Greeks themselves had been), and yet foresaw that modern European self-formation must endure the ordeal of its encounter with the Greek Other. The faculty of the imagination was instrumental to the mediated self-formation of this Bildung project, for imagination alone was capable of making Greece a living, vitalizing presence on the page. Our seminar will therefore trace the work of poetic imagination in Hölderlin's texts: the spatiality and mediality of the written and printed page, and their relation to the temporal rhythms of spoken discourse. All texts will be read in English translation, but a reading knowledge of German and/or Greek would be desirable. Instructor(s): C. Wild Terms Offered: Spring

Equivalent Course(s): GRMN 35614, CMLT 35614

#### CLAS 45716. Seminar: Ghosts, Demon,s and Supernatural Danger in the Ancient World. 100 Units.

This two-quarter graduate seminar, which fulfills the seminar requirement for graduate students in the Department of Classics' Program in the Ancient Mediterranean World, will examine the ancient discourses on and the ritual remedies for supernatural danger in Persian, Greek, Norse, Roman and other cultures. The first quarter will be devoted to guided reading and discussion while the second quarter will be reserved for writing a major research paper. Students, by arrangement with the instructor, will also be permitted to enroll for just the first quarter and write a shorter paper or take-home exam. Instructor(s): C. Faraone, B. Lincoln Terms Offered: Winter Equivalent Course(s): ANCM 45716. HREL 45716

CLAS 45913. Sem: Ancient medical writings in context. 100 Units.

Ancient medicine is intimately linked with philosophical investigation. From the beginning, it fed philosophical theory as well as adapted it to its own use. It also offers a valuable insight into how ordinary humans lived their lives. Medical practice takes us into the homes of the Greeks and Romans, while shedding light on their fears and aspirations. The extant literature is voluminous. There is, first of all, the Hippocratic corpus, a diverse collection of medical writings that drew inspiration from the reputed founder of scientific medicine, Hippocrates. These writings offer a unique insight into the first stages of the creation of a science. Later, Galen established the foundation of Western medicine by his brilliant dissections. As it happens, he was extremely voluble; and he took care to have his spoken words passed on in writing. As a result, we learn much more than just medical theory: we know how physicians competed with one another, and how they related to their patients. In sum, this seminar will study a selection of medical writings, conjointly with some philosophical and literary writings, in an attempt to gauge the intellectual and social significance of ancient medicine. Some knowledge of Greek will be useful. Instructor(s): E. Asmis Terms Offered: Winter

Equivalent Course(s): BIBL 45913

## CLAS 46313. Sem: Augustine. 100 Units.

Instructor(s): Clifford Ando & Terms Offered: Winter Equivalent Course(s): HIST 23513, HIST 33513, SCTH 37105

#### CLAS 46616. Religion and Reason. 100 Units.

The quarrel between reason and faith has a long history. The birth of Christianity was in the crucible of rationality. The ancient Greeks privileged this human capacity above all others, finding in reason the quality wherein man was closest to the gods, while the early Christians found this viewpoint antithetical to religious humility. As religion and its place in society have evolved throughout history, so have the standing of, and philosophical justification for, non-belief on rational grounds. This course will examine the intellectual and cultural history of arguments against religion in Western thought from antiquity to the present. Along the way, of course, we will also examine the assumptions bound up in the binary terms "religion" and "reason."

Equivalent Course(s): HIST 66606, PHIL 43011, KNOW 40201, DVPR 46616, CHSS 40201

#### CLAS 47415. Sem: Atheism and the Greeks. 100 Units.

CLAS 47515. Sem: Ghosts, Demons & Supernatural Danger in the Anc. World. 100 Units. Equivalent Course(s): ANCM 45715, HREL 45715

#### CLAS 47717. Seminar: Augustine Confessions. 100 Units.

This seminar is based an in-depth reading of the Confessions, with use of the Latin text. Topics to be covered will be determined by consensus during the first week, but they may include the genesis of the work in relation to Augustine's life and literary oeuvre (e.g. vis-à-vis the partly contemporary De Doctrina and De Trinitate); its structure (including the relationship between books I-X and XI-XIII) and narrative technique; its meditative versus dialogical character; Augustine's representation of the self and his method of Biblical exegesis; Manichean and Neoplatonic influences; and ancient (Pelagius) and postmodern readings of the Confessions (Lyotard, Marion). Once-weekly meetings will consist of discussions, lectures, and reports.

Equivalent Course(s): HREL 47717, THEO 47717, HIST 64301, HCHR 47717

#### CLAS 48017. Phaedras Compared: Adaptation, Gender, Tragic Form. 100 Units.

This seminar places Racine's French neoclassical tragedy Phaedra within a wide-ranging series of adaptations of the ancient myth, from its Greek and Latin sources (Euripides, Seneca, Ovid) to twentieth-century and contemporary translations and stage adaptations (Ted Hughes, Sarah Kane), read along with a series of theoretical and critical texts. Particular attention will be paid to critical paradigms and approaches in the evolving fields of classical reception studies, theater and performance studies, and gender studies. Reading knowledge of French strongly preferred.

Equivalent Course(s): FREN 48017, CMLT 48017, GNSE 48017, CDIN 48017, TAPS 48017

## CLAS 48616. Hölderlin and the Greeks. 100 Units.

The German poet Friedrich Hölderlin submitted to the paradoxical double-bind of Johann Joachim Winckelmann's injunction that "the only way for us [Germans] to become great or - if this is possible - inimitable, is to imitate the ancients." As he wrote in his short essay "The standpoint from which we should consider antiquity," Hölderlin feared being crushed by the originary brilliance of his Greek models (as the Greeks themselves had been), and yet foresaw that modern European self-formation must endure the ordeal of its encounter with the Greek Other. The faculty of the imagination was instrumental to the mediated self-formation of this Bildung project, for imagination alone was capable of making Greece a living, vitalizing, presence on the page. Our seminar will therefore trace the work of poetic imagination in Hölderlin's texts: the spatiality and mediality of the written and printed page, and their relation to the temporal rhythms of lived experience. All texts will be read in English translation, but a reading knowledge of German and/or Greek would be desirable. Equivalent Course(s): GRMN 48616, CMLT 48616

## CLAS 48916. The Formation of the Modern Concept of History. 100 Units.

Equivalent Course(s): SCTH 51302, CMLT 42916, HIST 52805, PHIL 53102

#### CLAS 49000. Prospectus Workshop. 100 Units.

A workshop for students who have completed coursework and qualifying exams, it aims to provide practical assistance and a collaborative environment for students preparing the dissertation prospectus. It will meet bi-weekly for two quarters. Instructor(s): C. Faraone Terms Offered: Autumn Spring Winter, winter

### CLAS 49700. Reading Course: Classics. 100 Units.

Reading Courses are designed ad-hoc in consultation between one or more students and a faculty member, usually in preparation for a student's research project. They carry the same workload as regularly scheduled courses.

## CLAS 50000. Rhetoric and Poetics Workshop. 000 Units.

TBA

Instructor(s): TBA Terms Offered: Autumn Spring Winter

## CLAS 70000. Advanced Study: Classical Languages & Literature. 300.00 Units.

Advanced Study: Classical Languages & Literature

## CLAS 75000. Advanced Research. 300.00 Units.

TBD Terms Offered: Autumn

Greek Courses

#### GREK 31700. Lyric and Epinician Poetry. 100 Units.

This course will examine instances of Greek lyric genres throughout the archaic and classical periods, focusing on the structure, themes and sounds of the poetry and investigating their performative and historical contexts. Readings will include Alcman, Sappho, Alcaeus, Anacreon, Ibycus, Alcaeus, Simonides, Bacchylides, Pindar and Timotheus. In Greek. Terms Offered: Autumn TBD. Not offered 2020-21. Will be offered 2021-22. Prerequisite(s): GREK 20300 or equivalent

Equivalent Course(s): GREK 20500 of Equival

## GREK 31800. Greek Epic. 100 Units.

This course is a reading of sections from Homer's Iliad. We will focus on character, emotions, and relationality in the poem, with an eye to evaluating the poem's many perspectives on mortality, relations with the divine, conceptions of the polis, and the nature of excellence.

Terms Offered: TBD Not offered 2020-21, will be offered 2021-22 Prerequisite(s): Two years or more of Greek. Equivalent Course(s): GREK 21800

## GREK 31900. Greek Oratory. 100 Units.

With Isocrates, Greek artistic prose reached its technical perfection," says L. R. Palmer in The Greek Language. Yet Isocrates has not found nearly so prominent a place in the university curriculum as have Demosthenes and Lysias. This course will attempt to give the great orator his due. We will start with his speech on Helen, comparing it with Gorgias' famous Encomium. We will also read the ad Demonicum, which became something of a handbook in later Helenistic and Roman-period schools, and the Panegyricus. We will consider carefully Isocratean language and diction, and why it has merited such sustained praise among connoisseurs of Greek prose style, ancient and modern. We will also emphasize the centrality of Isocrates' contribution to Greek paideia.

Terms Offered: TBD Not offered 2020-21 will be offered 2021-22 Prerequisite(s): Two years or more of Greek.

Equivalent Course(s): GREK 21900

## GREK 32300. Greek Tragedy: Hellenistic/Imperial Literature. 100 Units.

This class will read selections from the poetry of the Hellenistic period, especially the hymns of Callimachus, the pastoral poetry of Theocritus, and the epic parody "The Battle of the Frogs and Mice." Alongside these Hellenistic texts we will read some of their poetic predecessors (Homer, Hesiod, the Homeric Hymns, choral and monadic lyric), with an eye to the Hellenistic poets' interest in poetic form, self-positioning, and play.

Instructor(s): E. Asmis Terms Offered: Autumn

Prerequisite(s): GREK 20300 or equivalent

Equivalent Course(s): GREK 22300

## GREK 32320. Hellenistic Imperial Literature. 100 Units.

This class will read selections from the poetry and or prose of the Hellenistic period, especially the hymns of Callimachus, the pastoral poetry of Theocritus, and the epic parody "The Battle of the Frogs and Mice." Alongside these Hellenistic texts we will read some of the poetic predecessors (Homer, Hesiod, the Homeric Hymns, choral and monadic lyric), with an eye to the Hellenistic poets; interest in poetic form, self-positioning, and play.

Instructor(s): E. Austin. Terms Offered: Autumn

Prerequisite(s): PQ: GREK 20300 or equivalent

Equivalent Course(s): GREK 23220

## GREK 32515. Greek Historians: Thucydides. 100 Units.

In this course we will read book 1 of Thucydides, his description of the run-up to the Peloponnesian War, in Greek. We will pay attention to Thucydides' style and approach to historiography, sinking our teeth into this difficult but endlessly fascinating text.

Instructor(s): Helma Dik Terms Offered: Winter. Will be offered 2020-21 Prerequisite(s): At least two years of Greek. Equivalent Course(s): FNDL 22517, GREK 22515

## GREK 32700. Survey of Greek Literature I. 100 Units.

We will cover Greek poetry, including drama, from Homer to Callimachus. Classes will be concerned chiefly with genre, style, meter, and literary tropes with some discussion of the scholarly history on these texts. There will be some close study of passages chosen to exemplify problems of interpretation or to display the major themes in each poet's work. Instructor(s): S. Nooter Terms Offered: Winter

#### GREK 32800. Survey of Greek Literature II. 100 Units.

A study of the creation of the canonical Greek prose style in the 5th and 4th centuries. Rapid reading and translation exercises.

Instructor(s): H. Dik Terms Offered: Offered 2015-2016

#### GREK 34400. Greek Prose Composition. 100 Units.

The goal of this course is to write accurate sentences and paragraphs in classical Attic Greek. We are not concerned here with stylistic imitation, but rather to write Attic prose clearly and correctly. The most obvious benefits of this exercise will be thorough review of basic morphology and syntax as well as fine-tuning one's grasp of the more subtle nuances of the Greek language. Another important benefit is cultivating Attic prose as a kind of linguistic standard or canon by which we are able to better understand other Greek styles of writing and types of diction. The vantage point of a standard allows us to analyze and understand other styles on their own terms and merits, whether Herodotos, Epic, New Testament, etc.

Instructor(s): D. Martinez Terms Offered: Autumn Prerequisite(s): Consent of instructor

#### GREK 35417. The Paris Magical Codex (PGM IV) 100 Units.

The Greek magical papyri have been called "one of the largest collections of functioning ritual texts... that has survived from late-antiquity" (1.Z. Smith) and deserve close study. The Paris magical codex (PGM IV) is by far the longest and best preserved and will be the focus of the seminar not only as a key transmitter of scores of magical recipes, but also as a material artifact, that needs to be approached from the discipline of papyrology. In this seminar, then, we will devote much time to papyrological practice by editing the entire text of PGM IV and observing many of its important features: codicology, page setup, paleography, drawings, patterns. But we will also discuss how this handbook is an important source for the history of ancient curses, amulets, divination and erotic magic.

Equivalent Course(s): GREK 42417

#### GREK 36100. Introduction to Papyrology. 100 Units.

This course will concentrate on the methods and perspectives of the discipline of papyrology, including the "hands on" experience of working with photographed and scanned texts of various collections. No previous knowledge of the field is assumed; we will begin from the ground up. Approximately the first six weeks of the course will be devoted to an introduction to the study of papyri, in which our concerns will include the following: 1. transcription and analysis of different paleographic styles, including literary hands and documentary Ptolemaic scripts. 2. extensive reading of edited papyrus texts from the Pestman and Loeb editions and elsewhere; 3. careful attention to the tluguistic phenomenon of koine Greek with regard to phonology, morphology, and syntax; how the koine differs from the classical language and the relationship of the idiom of the papyri to that of other koine documents, such as the New Testament; the importance of koine linguistics to textual criticism. 4. investigation of the contribution of papyrology to other areas of the study of antiquity such as literature, social history, linguistics, textual criticism, and religion.

Instructor(s): David Martinez Terms Offered: Spring

Prerequisite(s): Three years of Greek

Note(s): This course is open to undergrads by Petition only.

Equivalent Course(s): BIBL 43300

### GREK 36918. Readings in Plutarch's Demonology. 100 Units.

We will read sections of Plutarch's Moralia dealing with the topic of daimones, particularly from the treatise De defectu oraculorum ("On the Decline of the Oracles"). We will also read the major demonological passages from the Greek New Testament and compare the perspectives on the origen, nature, and activities of the daimon.

Instructor(s): David Martinez Terms Offered: Winter

Prerequisite(s): At least two years of Greek required.

Equivalent Course(s): BIBL 46900

## GREK 37100. The Corpus Hermeticum. 100 Units.

According to Clement of Alexandria Hermes Trismegistus authored 42 "fundamental books" on Egyptian religion. The writings under his name which are extant, dating between the first and third centuries AD, incorporate many styles and genres, including cosmogony, prophecy, gospel, popular philosophy, anthropology, magic, hymn, and apocalypse. The first treatise in the collection well represents the whole. It tells how the god Poimandres manifests to his follower a vision, revealing the origin of the kosmos and humanity, and how archetypal man descends to his fallen state and may be redeemed. We will begin with the Poimandres and then read other sections of this strange but absorbing body of material (including Books 4, 10, 13 and 16).

Instructor(s): David Martinez Terms Offered: Winter Prerequisite(s): At least two years of Greek required. Equivalent Course(s): BIBL 49900

#### GREK 37114. Origen of Alexandria. 100 Units.

It is difficult to conceive of doing justice to the vast scope of Origen's work in one quarter, but we will do our best to sample generous selections from the Greek text of his exceptical, homiletic, and doctrinal writing, including a substantive selection from his Treatise on Prayer and perhaps the section of the Dialogue with Heracleides preserved among the Tura papyri. We will of course focus on Origen as the greatest exponent of the allegorical method of biblical interpretation and its Platonic underpinnings. We will also consider carefully the style of his Greek and his position as a Christian apologist. Equivalent Course(s): BIBL 49800

#### GREK 40617. Sem: Epictetus/Aurelius. 100 Units.

Both Epictetus' Discourses and Marcus Aurelius' Meditations have been philosophical best sellers ever since antiquity. Both humanize ancient Stoicism. In this seminar, we will look closely at the Greek text to investigate each author's unique response to Stoic doctrine. The focus of the seminar will on the creativity of each author in reshaping Stoic doctrine. We will also look at the reception of these authors in the Renaissance and later. Prerequisite: the equivalent of two years of Ancient Greek.

Instructor(s): E. Asmis. Terms Offered: Spring Equivalent Course(s): BIBL 40617

#### GREK 41217. Aeschylus' Oresteia: Drama and Democracy. 100 Units.

The Oresteia: Aeschylus's prizewinning trilogy explores (among other things) the fortunes of the house of Atreus, the making of the polis, matters of state, gender trouble, questions of kinship, revenge and its impasses, institutions of justice. Ancient Greek theater in the early-mid 5th c. BCE both maps and reckons with the constitutive tensions in the polis between residual (but still influential) aristocratic norms and practices and the newly dominant (but still developing democratic ethos and ideals - its practices institutionalized in the assembly, the magistracies, and the courts. Aeschylus's Oresteia both represents and contributes to that debate (in antiquity and in current scholarship). This trilogy helps us understand crucial aspects of the society that produced it but also invites us to reflect on the ways ancient literature informs how we think about ourselves and our predicaments now - political, familial, existential. And the Oresteia further invites us to think about the uses and possibilities of theater, then and now. We will supplement our reading of the play with commentary grounded in literary interpretation and cultural poetics, as well as philosophy and political theory. Although no knowledge of Greek is required for this course, there will be assignment options for those who wish to do reading in Greek. Equivalent Course(s): SCTH 31224, FNDL 21224

## GREK 41220. Sophocles, THE TRACHINIAN WOMEN. 100 Units.

A close literary and philological analysis of one of the most remarkable and perplexing of all Greek tragedies. While this has traditionally been one of the most neglected of Sophocles' tragedies, it is a drama of extraordinary force and beauty and the issues that it explores - husband and wife, parents and child, sexual violence, myth and temporality, divinity and humanity, suffering and transcendence - are ones that are both of permanent interest and of particular relevance to our present concerns. The poetic text, in its many dimensions, will offer more than adequate material for classroom analysis and discussion, but some attention will also be directed to the reception of this play.

Instructor(s): Glenn W. Most Terms Offered: Course will be taught winter 2021 via zoom

Prerequisite(s): PQ: a reading knowledge of ancient Greek or the consent of the instructor; open to graduate students and, with the consent of the instructor, to undergraduates.

Equivalent Course(s): SCTH 35991

## GREK 42118. The Embodied Word in Greek Poetry. 100 Units.

This course examines materiality in practice and materiality as metaphor in Greek poetry. Themes for exploration will include the shared identity of music and poetry in the Homeric world; erotic language and temporalities in archaic lyric poetry; the relationship of poetic sound and embodied performance in choral song; and the role of the written word in instantiating the poetic one in several contexts and media of poetic production and transmission. Readings will include Homer, Archilochus, Sappho, Simonides, Pindar, Aristophanes, Timotheus, Plato and epigrams, as well as some poems in English from the modern period.

Instructor(s): S. Nooter Terms Offered: Autumn

## GREK 42417. The Paris Magical Codex (PGM IV) 100 Units.

The Greek magical papyri have been called "one of the largest collections of functioning ritual texts... that has survived from late-antiquity" (J.Z. Smith) and deserve close study. The Paris magical codex (PGM IV) is by far the longest and best preserved and will be the focus of the seminar not only as a key transmitter of scores of magical recipes, but also as a material artifact, that needs to be approached from the discipline of papyrology. In this seminar, then, we will devote much time to papyrological practice by editing the entire text of PGM IV and observing many of its important features: codicology, page setup, paleography, drawings, patterns. But we will also discuss how this handbook is an important source for the history of ancient curses, amulets, divination and erotic magic. Equivalent Course(s): GREK 35417

## GREK 45808. Antigone. 100 Units.

Equivalent Course(s): CMLT 31221, SCTH 31221

#### GREK 46518. Sem: Hesiod and the Homeric Hymns. 100 Units.

We will read in Greek and slowly discuss Hesiod's Theogony, the proem to the Works and Days and the four longer Homeric Hymns to Aphrodite, Apollo, Demeter and Hermes. Students will be evaluated on their in-class translations and a seminar paper.

Instructor(s): C. Faraone & B. Lincoln Terms Offered: Winter Equivalent Course(s): ANCM 36518, HREL 46518

## GREK 49700. Reading Course: Greek. 100 Units.

Reading Courses are designed ad-hoc in consultation between one or more students and a faculty member, usually in preparation for a student's research project. They carry the same workload as regularly scheduled courses.

## Latin Courses

#### LATN 30100. Introduction To Latin-1. 100 Units. Equivalent Course(s): NTEC 30100

LATN 30200. Introduction To Latin-2. 100 Units.

Equivalent Course(s): NTEC 30200

### LATN 30300. Introduction To Latin-3. 100 Units.

#### LATN 31100. Roman Elegy. 100 Units.

This course examines the development of the Latin elegy from Catullus to Ovid. Our major themes are the use of motifs and topics and their relationship to the problem of poetic persona.

Instructor(s): D. Wray Terms Offered: Autumn. Not offered 2020-21; will be offered 2022-23 Equivalent Course(s): LATN 21100, CMLT 31101, CMLT 21101

#### LATN 31219. Philosophical Prose: Cicero, Tusculan Disputations' 100 Units.

Several months after the death of his beloved daughter and just two years before his own death, Cicero composed a dialog with an imaginary interlocutor arguing that death, pain, grief, and other perturbations were an unimportant part of the big picture. A reading of this famous contribution-all of it in English, selections in Latin-to the genre of consolation literature affords an opportunity to weigh his many examples and his arguments for ourselves.

Instructor(s): P. White. Terms Offered: Spring. Not offered 2020-21; will be offered 2022-23 Note(s): Latin 203 or equivalent.

Equivalent Course(s): LATN 21219, FNDL 21219

#### LATN 31300. Vergil. 100 Units.

Vergil's ten Eclogues are some of Latin literature's most enigmatic poems. In addition to reading this collection carefully in Latin, we will sample some of Theocritus' pastoral in translation, Calpurnius Siculus' Eclogues in Latin, and Milton's Lycidas. Class time will focus on translation, interpretation, and discussion of secondary readings. Instructor(s): M. Lowrie Terms Offered: Spring. Not offered 2020–21; will be offered 2022–23 Note(s): Topic: Eclogues Equivalent Course(s): LATN 21300

## LATN 31500. Roman Satire. 100 Units.

We shall read extensively in Latin from the Satires of Juvenal. We shall focus on language, poetic technique, and understanding the text (also with the help of early Latin-language commentaries). Instructor(s): Michael Allen Terms Offered: Autumn Equivalent Course(s): LATN 21500

## LATN 31600. Roman Oratory. 100 Units.

Marcus Tullius Cicero (106-44BC) was the most accomplished orator of the Roman Republic. Among the most fascinating of his speeches are the three "Caesarian" speeches delivered to Julius Caesar on behalf of persons who had opposed Caesar in the civil war. In the speeches Cicero, in many different ways, uses his hard-won rhetorical and literary skills, practiced over a lifetime in lawsuits, political debates, and philosophizing, not merely to on behalf of the immediate subjects of the speeches, but also to suggest social and political roles for Caesar himself. Caesar's place in the Roman World is as much a topic of the three speeches as immediate issues of each class. The chief purpose of the class is to reach an understanding of the basic issues of speech and the roles that Cicero scripts for Caesar in them.

Instructor(s): Brian Krostenko Terms Offered: Autumn. Topic Cicero's Caesarian Speeches Prerequisite(s): Latin 20300 Note(s): Topic: Cicero's Caesarian Speeches

Equivalent Course(s): LATN 21600

## LATN 31800. Roman Historian. 100 Units.

Primary readings are drawn from the Tiberian books of the Annals, in which Tacitus describes the consolidation of the imperial regime after the death of Augustus. Parallel accounts and secondary readings are used to help bring out the methods of selecting and ordering data and the stylistic effects that typify a Tacitean narrative.

Terms Offered: Spring. This course will be offered 2021-22. Prerequisite(s): LATN 20300 or equivalent

Note(s): Topic: Tacitus.

Equivalent Course(s): LATN 21800

#### LATN 31900. Roman Comedy. 100 Units.

Plautus' Pseudolus is read in Latin, along with secondary readings that explain the social context and the theatrical conventions of Roman comedy. Class meetings are devoted less to translation than to study of the language, plot construction, and stage techniques at work in the Pseudolus.

Terms Offered: Spring. This course will be offered 2021-22.

Prerequisite(s): LATN 20300 or equivalent Equivalent Course(s): LATN 21900, ANCM 41919

#### LATN 32100. Lucretius. 100 Units.

We will read selections of Lucretius' magisterial account of a universe composed of atoms. The focus of our inquiry is: how did Lucretius convert a seemingly dry philosophical doctrine about the physical composition of the universe into a gripping message of personal salvation? The selections include Lucretius' vision of an infinite universe, of heaven, and of the hell that humans have created for themselves on earth.

Terms Offered: Autumn. This course will be offered 2020-21.

Equivalent Course(s): LATN 22100

## LATN 32120. Vergil: Aeneid. 100 Units.

In this course we will read as much as possible of Vergil's Aeneid in the original, and the rest in translation. Our focus will be on the way the poem interrogates some of its most basic claims about empire, piety, heroism, and history, but we will try to avoid falling into the binary trap of "positive" and "negative" readings of the epic's relationship to its Roman imperial context. Requirements: Class presentation; 10 page paper; final.

Instructor(s): Shadi Bartsch-Zimmer Terms Offered: Winter

Prerequisite(s): LATN 20200 or equivalent.

Equivalent Course(s): LATN 22120

## LATN 32800. Survey of Latin Literature II. 100 Units.

With emphasis on major trends in modern critical interpretations of the major figures. Instructor(s): P. White Terms Offered: Winter

#### LATN 34400. Latin Prose Composition. 100 Units.

This course is a practical introduction to the styles of classical Latin prose. After a brief and systematic review of Latin syntax, we combine regular exercises in composition with readings from a variety of prose stylists. Our goal is to increase the students' awareness of the classical artists' skill and also their own command of Latin idiom and sentence structure. Terms Offered: Autumn. Not offered 2017-18

Prerequisite(s): Undergraduates consent of instructor

## LATN 36100. History of Latin. 100 Units.

This course examines the phonological and morphological development of the Latin language from Indo-European to Vulgar Latin. That development is studied both of its own sake and as a point of departure for introducing linguistics concepts useful for the analysis of other layers of language and aspects of literary texts. Discussion of major topics in phonology and morphology will alternate with close examination of sample or otherwise relevant texts and lexical families. Major topics are: the principles of historical and comparative linguistics, the development of the Latin sound inventory; Latin and its sister languages; the creation of the Latin nominal and verbal systems; (some of) the varieties of classical Latin; and the influence of Greek on Latin.

Instructor(s): B. Krostenko Terms Offered: Autumn Equivalent Course(s): LATN 26100

## LATN 40917. Vergilian Receptions. 100 Units.

This seminar offers a series of case-studies in the reception of Vergil's Aeneid. We will start with the ancient commentators, then move on to Macrobius, Fulgentius, and the medieval allegorists, Dante's Inferno, the Aeneid and Christianity, the Aeneid in the New World, the poem's treatment before and after WWI, the Aeneid in the hands of the Italian Fascists, and finally, contemporary trends in interpretation. We will also address reception theory, the figure of Dido through time, and, if there is time, the Aeneid in art. Where possible, readings will be in Latin. Instructor(s): S. Bartsch-Zimmer

#### LATN 48116. Seminar: Cicero Orator. 100 Units.

Cicero's culminating essay on oratory is compared with Aristotle's Rhetoric, other rhetorical writings by Cicero, and some of the speeches with the aim of identifying distinctive preoccupations of Latin oratory at the end of the Republic. Topics considered include the influence of philosophy on rhetoric, practice versus theory, teleology in the history of Roman oratory, the construction of Roman auctoritas, and the relation of live performance to publication Ident. CLAS 48116. Peter White. ARR.

Equivalent Course(s): BIBL 48116

## LATN 49700. Reading Course: Latin. 100 Units.

Reading Courses are designed ad-hoc in consultation between one or more students and a faculty member, usually in preparation for a student's research project. They carry the same workload as regularly scheduled courses.



## Department of Comparative Literature

## Chair

Mark Payne

Director of Graduate Studies

• TBD

Director of Undergraduate Studies

Olga Solovieva

Professors

- Frederick de Armas
- Loren A. Kruger
- Françoise Meltzer
- Thomas Pavel
- Mark Payne
- Haun Saussy
- Joshua Scodel

Associate Professors

- Sascha Ebeling
- Rachel Galvin
- Na'ama Rokem
- Lawrence Rothfield
- David Wray

Assistant Professors

- Hoda El Shakry
- Leah Feldman
- Olga Solovieva
- Anna Elena Torres
- Kris Trujillo

Visiting Professors

Françoise Lionnet

Department Administrator

Ingrid Sagor

The Department of Comparative Literature promotes the multidisciplinary, historically self-reflective and cross-cultural study of texts, traditions, and discourses. The department offers students the opportunity to grapple in a rigorous way with the most pressing issues in literary studies today, such as the questioning of national and cultural boundaries and identities; the struggle over literature's epistemological, ethical, or social authority; the debate about what counts as literature, and why; and the interaction between literature and other cultural or intellectual practices. To that end, the department works with every student individually to arrange a course of studies fitted to their background and scholarly interests. Students may choose from courses offered by the department, as well as those offered by other departments in the Division of the Humanities and in some cases those offered by other divisions. Since we place particular emphasis on reading texts in their original language, all students are expected to develop the highest possible competence in the languages they work with. Students generally use their first years (the time period leading to the Master's degree) to explore areas of interest and to strengthen their language competence.

## The Degree of Master of Arts

The objective of the program is the Ph.D. degree. Doctoral students in the program are eligible for an M.A. degree after completing the following requirements: a program of eight graduate level courses (one full academic year), all of which must be taken for a letter grade; the required two-quarter Introduction to Comparative Literature sequence; and demonstrated competence (high proficiency in a graduate literature course or high pass in a University examination) in two foreign languages, one of which must be either French or German. The remaining six quarter courses are normally divided among two literatures, although a student may, with the Department's permission, place greater emphasis on one literature
or on some special disciplinary interest. Satisfactory completion of the M.A. requirements will be based on a student's grade record and performance in the required two-quarter sequence.

#### The Degree of Doctor of Philosophy

In their first year of study, students are required to submit a qualifying paper on a subject agreed upon with a core faculty member of the Department of Comparative Literature. This paper should demonstrate the student's ability to write scholarly prose, to formulate a clear research argument, and to situate it within the context of secondary literature relevant to the topic. It must be submitted during the third week of the Spring Quarter of the first year. The length of this paper must be 8,000 to 10,000 words, including footnotes and references (12 pt font, double-spaced, with 1 inch margins). There are two readers for this qualifying paper: The first is the faculty member who has worked with the student on the paper; the second reader is another core faculty member of the Department appointed by the Department Chair. The two faculty members consult with each other to determine the grade for the paper, either "No Pass" or "Pass". The student will receive comments from each reader. In the case of a "No Pass", the student will receive an explanation of why the paper did not pass and advice on revision(s) from both readers. The student can then revise the paper over the summer and has to resubmit it in the first week of the Fall Quarter of Year 2.

Please note that all required courses in the PhD must be taken for a quality letter grade (not pass/fail).

Before the student is recommended for admission to candidacy for the doctor's degree, he or she must pass satisfactorily a take-home examination and oral examination by their committee, only after completion of the PhD coursework (16 courses).

#### Language Requirements

For admission to candidacy the same language requirements hold for both Track I and Track II.

The minimal requirements:

 High proficiency in French or German. This is demonstrated by passing a graduate literature course in the language (and approval by the faculty of record via form) or a high pass (P+) on the Graduate Reading Exam (https:// languageassessment.uchicago.edu/arca/) proctored by the Chicago Language Center. (https://languages.uchicago.edu/)

#### and

High proficiency in a second language other than English. This is demonstrated by passing a graduate literature course in the language (and approval by the faculty via CMLT department form (https://humanities-web.s3.us-east-2.amazonaws.com/complit/staging/2018-12/LANGUAGE\_PROFICIENCY\_FORM\_copy.pdf) m) or a high pass (P+) on the Graduate Reading Exam (https://languageassessment.uchicago.edu/arca/) proctored by the Chicago Language Center. (https://languages.uchicago.edu/)

All graduate students who wish to fulfill the language requirement through graduate course work must pick up a form in the departmental office to be filled out by the instructor after the course work has been completed. No student will receive credit for the language requirement by course work without the instructor's completion of such a form. The form will rate the student's general knowledge of the language with emphasis on reading skills.

Students should also be working towards native fluency in the language of their major literature, first by coursework on our campus and, once they have exhausted the University's offerings, by applying to study abroad. Funding for language study depends on the language and on the student's immigration status; for information, please review the websites of the Division (http://humanities.uchicago.edu/students/financial-aid/fellowships) and UChicagoGrad (https://grad.uchicago.edu/admissions/). Further information on the registration for the language exam (for which a High Pass is required) can be found at the Office of Language Assessment. (http://languageassessment.uchicago.edu/age/academic-reading-comprehension-assessment/)

#### Dissertation

Before entering candidacy, students will be asked to present and discuss their dissertation proposals at a proposal hearing attended by their dissertation committee and other interested faculty. After entering candidacy, students will participate in a colloquium, normally in the fifth quarter after their admission to candidacy, in which they will discuss with their dissertation committee the current state of the dissertation and outline their plans and schedule for further progress. Students are strongly urged to join appropriate workshops and present dissertation chapters on a regular basis to such workshops. After satisfying the above requirements, the candidate is expected to pursue independent research under the direction of a member of the faculty culminating in the writing of a doctoral dissertation. Candidates conclude their studies by successfully defending their dissertation in a final oral examination.

For additional information about the Comparative Literature Graduate Program, please visit https://complit.uchicago.edu/graduate/program.

#### Application

The department requires a writing sample of no more than 25 pages, usually a critical essay written during the student's college years.

The application process for admission and financial aid for all graduate programs in Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions,

deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/admissions (http://humanities.uchicago.edu/students/admissions/)

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552. Our application process is entirely online. Please do not send any materials in hard copy. All materials should be submitted through the online application (http://humanities.uchicago.edu/students/admissions/apply-now (http:// humanities.uchicago.edu/students/admissions/apply-now/)).

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu/, or call them at (773) 702-7752.

# Comparative Literature Courses

# CMLT 20109. Comparative Methods in the Humanities. 100 Units.

This course introduces models of comparative analysis across national literatures, genres, and media. The readings pair primary texts with theoretical texts, each pair addressing issues of interdisciplinary comparison. They include Orson Welles's 'Citizen Kane' and Coleridge's poem 'Kubla Khan'; Benjamin's 'The Storyteller,' Kafka's 'Josephine the Mouse Singer,' Deleuze and Guattari, Kafka: Toward a Minor Literature, and Mario Vargas Llosa's The Storyteller, 'Victor Segalen's Stèles; Fenollosa and Pound's 'The Chinese Character as a Medium of Poetry' and Eliot Weinberger's Nineteen Ways of Looking at Wang Wei; Mérimée, 'Carmen,' Bizet, Carmen, and the film adaptation U-Carmen e-Khayelitsha (South Africa, 2005); Gorky's and Kurosawa's The Lower Depths; Molière, Tartuffe, Dostoevsky, The Village Stepanchikovo and its Inhabitants, and Bakhtin, 'Discourse in the Novel'; Gogol, The Overcoat, and Boris Eikhenbaum, 'How Gogol's Overcoat Is Made.' Instructor(s): Olga Solovieva Terms Offered: Winter

Prerequisite(s): Prerequisite: Completed Humanities, or Civilization Core requirement. The course is designed for the second-year students and above.

Equivalent Course(s): ENGL 28918

#### CMLT 22501. Vico's New Science. 100 Units.

This course offers a close reading of Giambattista Vico's masterpiece, New Science (1744)-a work that sets out to refute 'all opinions hitherto held about the principles of humanity.' Vico, who is acknowledged as the most resolute scourge of any form of rationalism, breathed new life into rhetoric, imagination, poetry, metaphor, history, and philology in order to promote in his readers that originary 'wonder' and 'pathos' which sets human beings on the search for truth. However, Vico argues, the truths that are most available and interesting to us are the ones humanity 'authored' by means of its culture and history-creating activities. For this reason the study of myth and folklore as well as archeology, anttropology, and ethnology must all play a role in the rediscovery of man. The New Science builds an 'alternative philosophy' for a new age and reads like a 'novel of formation' recounting the (hi)story of the entire human race and our divine ancestors. In Vico, a prophetic spirit, one recognizes the fulfillment of the Renaissance, the spokesperson of a particular Enlightenment, the precursor of the Kantian revolution, and the forefather of the philosophy of history (Herder, Hegel, and Marx). The New Science remained a strong source of inspiration in the twentieth century (Cassirer, Gadamer, Berlin, Joyce, Beckett, etc.) and may prove relevant in disclosing our own responsibilities in postmodernity.

Instructor(s): R. Rubini Terms Offered: Autumn

Note(s): Taught in English.

Equivalent Course(s): ITAL 32900, FNDL 21408, CMLT 32501, ITAL 22900

# CMLT 23301. Balkan Folklore. 100 Units.

Vampires, fire-breathing dragons, vengeful mountain nymphs. 7/8 and other uneven dance beats, heart-rending laments, and a living epic tradition. This course is an overview of Balkan folklore from historical, political, and anthropological perspectives. We seek to understand folk tradition as a dynamic process and consider the function of different folklore genres in the imagining and maintenance of community and the socialization of the individual. We also experience this living tradition firsthand through visits of a Chicago-based folk dance ensemble, 'Balkan Dance.' Instructor(s): A. Ilieva Terms Offered: Winter

Equivalent Course(s): ANTH 35908, ANTH 25908, CMLT 33301, NEHC 20568, NEHC 30568, REES 29009, REES 39009

#### CMLT 23401. The Burden of History: The Nation and Its Lost Paradise. 100 Units.

What makes it possible for the imagined communities called nations to command the emotional attachments that they do? This course considers some possible answers to Benedict Anderson's question on the basis of material from the Balkans. We will examine the transformation of the scenario of paradise, loss, and redemption into a template for a national identity narrative through which South East European nations retell their Ottoman past. With the help of Žižek's theory of the subject as constituted by trauma and Kant's notion of the sublime, we will contemplate the national fixation on the trauma of loss and the dynamic between victimhood and sublimity.

Instructor(s): A. Ilieva Terms Offered: Autumn

Equivalent Course(s): CMLT 33401, REES 29013, NEHC 30573, NEHC 20573, HIST 24005, HIST 34005, REES 39013

# CMLT 24202. Philosophy and Literature in India. 100 Units.

Is philosophy literature? Is literature philosophy? What constitutes either of these seemingly disparate enterprises, formally and thematically, and what kinds of conjunctions can we imagine between them (philosophy in/of/as literature)? Can one translate these terms across cultures? Are they the sole prerogative of leisured elites, or can they harbor and cultivate voices of dissent? Above all, what does it mean to reflect on these categories outside the parochial context of the Western world? This course explores these questions by introducing some of the literary cultures, philosophical traditions, religious poetry, and aesthetic theories of the South Asian subcontinent. Students will encounter a variety of genres including scriptural commentary, drama and courtly poetry, and the autobiography. Readings, all in translation, will range from Sanskrit literature to Sufi romances and more.

Instructor(s): Anand Venkatkrishnan Terms Offered: Winter Equivalent Course(s): RLST 24200, SALC 20903, SIGN 26073

## CMLT 24410. Kurosawa and His Sources. 100 Units.

This interdisciplinary graduate course focuses on ten films of Akira Kurosawa which were based on literary sources, raging from Ryunosuke Akutagawa, Jules Dassin, Georges Simenon, and Shakespeare to Dostoevsky, Tolstoy, Gorky, and Arseniev. The course will not only introduce to some theoretical and intermedial problems of adaptation of literature to film but also address cultural and political implications of Kurosawa's adaptation of classic and foreign sources. We will study how Kurosawa's turn to literary adaptation provided a vehicle for circumventing social taboos of his time and offered a screen for addressing politically sensitive and sometimes censored topics of Japan's militarist past, war crimes, defeat in the Second World War, and ideological conflicts of reconstruction. The course will combine film analysis with close reading of relevant literary sources, contextualized by current work of political, economic, and cultural historians of postwar Japan. The course is meant to provide a hands-on training in the interdisciplinary methodology of Comparative Literature. Undergraduate students can be admitted only with the permission of the instructor.

Instructor(s): Olga Solovieva Terms Offered: Spring

Equivalent Course(s): SIGN 24410, EALC 24410, EALC 34410

# CMLT 26912. Strangers to Ourselves: Emigre Literature and Film from Russia and Southeast Europe. 100 Units.

Being alienated from myself, as painful as that may be, provides me with that exquisite distance within which perverse pleasure begins, as well as the possibility of my imagining and thinking,' writes Julia Kristeva in 'Strangers to Ourselves,' the book from which this course takes its title. The authors whose works we are going to examine often alternate between nostalgia and the exhilaration of being set free into the breathless possibilities of new lives. Leaving home does not simply mean movement in space. Separated from the sensory boundaries that defined their old selves, immigrants inhabit a warped, fragmentary, disjointed time. Immigrant writers struggle for breath-speech, language, voice, the very stuff of their craft resounds somewhere else. Join us as we explore the pain, the struggle, the failure, and the triumph of emigration and exile. Vladimir Nabokov, Joseph Brodsky, Marina Tsvetaeva, Nina Berberova, Julia Kristeva, Alexander Hemon, Dubravka Ugreši#, Norman Manea, Miroslav Penkov, Ilija Trojanow, Tea Obreht.

Instructor(s): A. Ilieva Terms Offered: Spring

Equivalent Course(s): REES 39010, CMLT 36912, REES 29010

CMLT 27701. Imaginary Worlds: The Fantastic and Magic Realism in Russia and Southeastern Europe. 100 Units. In this course, we will ask what constitutes the fantastic and magic realism as literary genres while reading some of the most interesting writings to have come out of Russia and Southeastern Europe. While considering the stylistic and narrative specificities of this narrative mode, we also think about its political functions -from subversive to escapist, to supportive of a nationalist imaginary-in different contexts and at different historic moments in the two regions. Instructor(s): Angelina Ilieva Terms Offered: Spring

Equivalent Course(s): CMLT 37701, REES 39018, REES 29018

## CMLT 29024. States of Surveillance. 100 Units.

What does it feel to be watched and listened to all the time? Literary and cinematic works give us a glimpse into the experience of living under surveillance and explore the human effects of surveillance - the fraying of intimacy, fracturing sense of self, testing the limits of what it means to be human. Works from the former Soviet Union (Solzhenitsyn, Abram Tertz, Andrey Zvyagintsev), former Yugoslavia (Ivo Andri#, Danilo Kiš, Dušan Kova#evi#), Romania (Norman Manea, Cristian Mungiu), Bulgaria (Valeri Petrov), and Albania (Ismail Kadare).

Instructor(s): Angelina Ilieva Terms Offered: Spring

Equivalent Course(s): CMLT 39024, REES 29024, REES 39024

# FREN 29100. Pascal and Simone Weil. 100 Units.

Blaise Pascal in the seventeenth century and Simone Weil in the twentieth formulated a compelling vision of the human condition, torn between greatness and misery. They showed how human imperfection coexists with the noblest callings, how attention struggles with distraction and how individuals can be rescued from their usual reliance on public opinion and customary beliefs. Both thinkers point to the religious dimension of human experience and suggest unorthodox ways of approaching it. We will also study an important text by Gabriel Marcel emphasizing human coexistence and cooperation. Instructor(s): T. Pavel Terms Offered: Spring

Prerequisite(s): Undergraduates must be in their third or fourth year.

Note(s): Taught in English. For French undergraduates and graduates, there will be a bi-weekly one-hour meeting to study the original French texts.

Equivalent Course(s): SCTH 38201, FNDL 21812, CMLT 39101, CMLT 29101, FREN 39100, RLST 24910

# CMLT 29801. BA Project and Workshop: Comparative Literature. 100 Units.

This workshop begins in Autumn Quarter and continues through the middle of Spring Quarter. While the BA workshop meets in all three quarters, it counts as a one-quarter course credit. Students may register for the course in any of the three quarters of their fourth year. A grade for the course is assigned in the Spring Quarter, based partly on participation in the workshop and partly on the quality of the BA paper. Attendance at each class section required.

Instructor(s): Alia Breitwieser Terms Offered: Autumn Spring Winter

Note(s): Required of fourth-year students who are majoring in CMLT. Students should register for this course in the term where it best fits in their schedule.

# CMLT 31600. Marxism and Modern Culture. 100 Units.

Designed for graduate students in the humanities, this course begins with fundamental texts on ideology and the critique of capitalist culture by Marx, Engels, Lenin, Gramsci, Althusser, Wilhelm Reich and Raymond Williams, before moving to Marxist aesthetics, from the orthodox Lukács to the Frankfurt School (Adorno, Benjamin) to the heterodox (Brecht), and concludes with contemporary debates around Marxism and imperialism (Lenin, Fanon, and others), and Marxism and media, including the internet. This course will have a particular focus on guiding students through the conventions of academic writing in the Humanities.

Instructor(s): Loren Kruger Terms Offered: Winter

Prerequisite(s): Humanities graduate students and equivalent (eg DIV school; not suitable for MAPSS or Social Science PhDs

Equivalent Course(s): ENGL 32300, MAPH 31600

## CMLT 34240. Readings in Exile. 100 Units.

This course will read across 'subaltern' autobiographical and literary narratives of exile in order to interrogate the condition of exile in the twentieth and twenty-first centuries. How is the exile discursively distinguished from the refugee, the migrant, the immigrant? How do the various origins and forms of exile - emergent from colonialism, war, racism, xenophobia, political dissidence, and dispossession - inform our understanding of these broader global machinations? Readings will include works by Edward Said, Kathleen Neal Cleaver, Stuart Hall, and Mahmoud Darwish, among others. (20th/21st) Instructor(s): Sophia Azeb Terms Offered: Winter

Equivalent Course(s): ENGL 34240

## CMLT 36856. Queer Theory: Futures. 100 Units.

TBD

Instructor(s): Kris Trujillo Terms Offered: Winter Equivalent Course(s): GNSE 36856, RLVC 36856, GNSE 26856, ENGL 26856, CRES 26856, RLST 26856, ENGL 36856, CMLT 26856

## CMLT 39416. Freud. 100 Units.

This course will involve reading Freud's major texts, including, e.g., parts of The Interpretation of Dreams, 'Beyond the Pleasure Principle,' and his later work on feminine sexuality. We will consider Freud's views on bisexuality as well. We will also read case studies and consider theoretical responses to Freud's work, by Derrida, Lacan, and other important theorists. Course requirements will be one in-class presentation, based on the reading(s) for that day, and one final paper. Instructor(s): Francoise Meltzer Terms Offered: Autumn

Equivalent Course(s): ENGL 29416, CMLT 29416, ENGL 39416, DVPR 39416, RLST 29416

# CMLT 38775. Racial Melancholia. 100 Units.

This course provides students with an opportunity to think race both within a psychoanalytic framework and alongside rituals of loss, grief, and mourning. In particular, we will interrogate how psychoanalytic formulations of mourning and melancholia have shaped theories of racial melancholia that emerged at the turn of the twenty-first century. Turning to Asian American, African American, and Latinx theoretical and literary archives, we will interrogate the intersections of race, gender, and sexuality and ask: How do literatures of loss enable us to understand the relationship between histories of racial trauma, injury, and grief, on the one hand, and the formation of racial identity, on the other? What might it mean to imagine literary histories of race as grounded fundamentally in the experience of loss? What forms of reparations, redress, and resistance are called for by such literatures of racial grief, mourning, and melancholia? And, finally, how, if understood as themselves rituals of grief, might psychoanalysis and the writing of literature assume the role of religious devotion in the face of loss and trauma?

Instructor(s): Kris Trujillo Terms Offered: Autumn

Equivalent Course(s): GNSE 28775, ENGL 28775, CRES 22775, CMLT 28775, RLVC 38775, GNSE 38775, RLST 28775, ENGL 38775

# CMLT 40101. Research Themes in South Asian Studies: Textual Transformations - From Manuscript to Print. 100 Units.

This graduate course offers an introduction to the theory and practice of book history and print culture studies, a relatively recent and vibrant field of inquiry within South Asian Studies. The course will explore some of the main theoretical approaches, themes, and methodologies of the history of the book in comparative perspective, and discuss the specific conditions and challenges facing scholars of South Asian book history. Topics include orality and literacy, technologies of scribal and print production, the sociology of texts, authorship and authority, the print 'revolution' and knowledge formation under British colonial rule, the legal existence of books, the economy of the book trade, popular print, readership and consumption. We will also engage with the text as material artifact and look at the changing contexts, techniques, and practices of book production in the transition from manuscript to print.

Instructor(s): U. Stark

# Equivalent Course(s): HIST 61802, SALC 40100

#### CMLT 50430. Breathing Matters: Poetics and Politics of Air. 100 Units.

This seminar will re-examine the notion of 'inspiration' in its aesthetic and historical senses, revisiting textual and arts practices based on tropes of channeling, revelation, and possession as well as those based on embodied, performative and eco-conscious notions of circulation, interconnection, transformation, and receptivity. We will delve into the workings of air as an animating element that bridges and binds individuals to both internal and external forces. We will explore the long history of engagement with this element as it has been used to signify and enhance the circulation and interception of signs, dreams, and voices in literature, performance, audiovisual and electronic media, sculptural and architectural sites. We will examine the modern and contemporary politicization of air as a commons, and apply ourselves to the analysis and critique of industrial and post-industrial landscapes. A wide range of readings and viewings will include work by Hesiod, Coleridge, John Ruskin, Gerard Manley Hopkins, Frank O'Hara, Charles Olson, Ant Farm, Meredith Monk, Adriana Cavarero, Mladen Dolar, Nathaniel Mackey, Jorge Otero-Pailos, Latasha N. Nevada-Diggs, and many others. (20th/21st) Instructor(s): Jennifer Scappettone Terms Offered: Winter

Equivalent Course(s): ENGL 50430



# Department of East Asian Languages and Civilizations

Department Website: http://ealc.uchicago.edu Chair

Donald Harper

Director of Graduate Studies

• Hoyt Long

Director of Undergraduate Studies

Paul Copp

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Professors

- Michael K. Bourdaghs
- Donald Harper .
- James Ketelaar (also with History)
- Haun Saussy (also with Comparative Literature)
- Edward L. Shaughnessy
- Hung Wu (also with Art History)
- . Judith Zeitlin

Associate Professors

- Guy S. Alitto (also with History)
- Susan Burns (also with History)
- Paul Copp
- Kyeong Hee Choi
- Jacob Eyferth (also with History)
- Paola Iovene
- Yung-ti Li
- Hoyt Long

Assistant Professors

Ariel Fox •

Senior Lecturers

- Harumi Lory .
- Ji Eun Kim
- Youqin Wang
- Jun Yang

Instructional Professors

- Satoko Ogura Bourdaghs •
- Yoko Katagiri
- Yi-Lu Kuo •
- Meng Li
- Misa Miyachi
- Wonkyung Na
- Laura Skosey
- Xaiorong Wang
- Shan Xiang •

Lecturers

- Satoko Ogura
- Laura Skosey
- Yujia Ye

Emeritus Faculty

- George Chih Chao
- Norma Field
- Tetsuo Najita, History

#### Program Description

The Department of East Asian Languages and Civilizations is a multidisciplinary department, with faculty specialists in history, art, philosophy, languages, linguistics, literature, and religions, that offers a program of advanced study of the traditional and modern cultures of China, Japan, and Korea. At the same time, students are encouraged to pursue their interests across traditional disciplinary lines by taking courses in other departments in the Divisions of the Social Sciences and the Humanities.

The Department admits applicants only for the Ph.D. degree, and does not offer a terminal M.A. program. Students who arrive with a master's degree will be expected to fulfill the 18-course requirement. Students interested in a terminal M.A. degree should contact the University of Chicago <u>Master of Arts Program in the Humanities</u> or the <u>Master of Arts Program in Social Sciences</u>.

Students admitted to doctoral study in Summer 2020 and after will be guaranteed to have funding support from the University of Chicago, external sources, or a combination of the two for the duration of their program. This includes full tuition coverage, annual stipend, and fully paid individual annual premiums for UChicago's student health insurance. More information about the financial aid for Humanities students can be found here (https://humanities.uchicago.edu/students/ financial-aid/). Students are expected to remain in good academic standing.

Pedagogical training is a vital component of the educational experience at the University. Pedagogical training plans vary by department but are inclusive of the expectation that students will receive mentorship as course assistants and have the opportunity to teach their own stand-alone course.

During the first two years, students take nine courses each year. Depending on students' interests and preparation, some of the coursework may take place outside the Department. It may also include work in language, either the primary language of study or a secondary one, whether East Asian or not, as well as in a second East Asian civilization. Many students may also wish to spend one or more years in Japan, China, Taiwan, or Korea to achieve language mastery or do research for their dissertation. Teaching opportunities for students are also available.

After the Ph.D. qualifying exam, which consists of both an oral and written component, acceptance of a dissertation proposal admits a student to candidacy. Students are expected to write and defend dissertations that make original contributions to knowledge. The degree is conferred upon the successful defense of the completed dissertation.

Contact

Dawn Brennan, Department Administrator

Wieboldt Hall, Room 301-E

1050 East 58th Street

Chicago, IL 60637

Phone: 773.702.1255

ealc@uchicago.edu

Website: ealc.uchicago.edu (http://ealc.uchicago.edu/)

#### Information on How to Apply

The application process for admission and financial aid for all graduate programs in Humanities is administered through the divisional Office of the Dean of Students. The application for Admission and Financial Aid, with instructions, deadlines, and department specific information is available online at: http://humanities.uchicago.edu/students/admissions/).

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Current minimum scores, etc., are provided with the application. For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu, or call them at (773) 702-7752.

For additional information about the East Asian Languages and Civilizations program, please see http://ealc.uchicago.edu (http://ealc.uchicago.edu/) or call (773) 702-1255.

#### Program Requirements

The requirements are filled in three stages: Masters Degree Requirements (for students entering with or without an M.A. in East Asian Studies), Ph.D. Candidacy Requirements, and Ph.D. Degree Requirements.

# Master's Degree Requirements

- 1. Complete eighteen courses
  - a. One course should be EALC 65000 Directed Translation, although the translation requirement can be met in other ways.
  - b. No more than two courses taken for an 'R' or 'P' grade
  - c. Two non-specialization East Asian courses
- 2. No outstanding Incompletes
- 3. Courses or Placement at the third year level of one East Asian Language.
- 4. One M.A. thesis or two M.A. papers

# Ph.D. Candidacy Requirements

- 1. Second East Asian Language
- 2. Mastery of Languages required for primary research
- 3. Proficiency in any additional languages required for research
- 4. Pass PhD Qualifying Exams
- 5. Defense and approval of Dissertation Proposal

Once the student has passed the dissertation proposal defense, the Department will certify that the student has met all the requirements for Admission to Candidacy (all requirements for degree with the exception of the dissertation). The Department will submit paperwork to the Office of the Dean of Students that recommends that the student be admitted to candidacy for the PhD degree.

# Ph.D. Degree Requirements

- 1. Admission to Ph.D. Candidacy
- 2. Approval and Defense of the Dissertation

# Joint Ph.D. Program in East Asian Cinema

The Program in Cinema and Media Studies and the Department of East Asian Languages and Civilizations have formed a joint Ph.D. program in East Asian cinema at the University of Chicago. The University has long-standing engagement with both Film and East Asian studies and has already graduated a number of scholars who are changing the field of East Asian cinema around the world. The purpose of this degree program is to provide the best possible training in the methods, languages, and cultural contexts needed to undertake original research on specific topics in East Asian cinema and media studies. Students interested in following this course of study will first apply directly to either the Program in Cinema and Media Studies or to the Department of East Asian Languages and Civilizations.

You can see up-to-date course listings at our website, ealc.uchicago.edu, or on the registrar's Times Schedules at http://timeschedules.uchicago.edu/.

# EALC COURSES

# EALC 33970. Histories of Chinese Dance. 100 Units.

This class is an introduction to the forms, practices, and meanings of dance in China and the diaspora from ancient times to the present day. Through readings, videos, class demonstrations, and performances, we will explore the reconstruction of court dance in early China; Central Asian dance and dancers in the medieval imagination; the development of operatic movement in the late imperial period; the introduction and transformation of concert dance in the first half of the 20th century; socialist dance and the model ballets of the Cultural Revolution; folk dance and PRC ethno-nationalist discourse; the post-reform transnational avant-garde; ballroom dancing and everyday urban street life; Han revivalism, Shen Yun, and 'classical Chinese dance' in the 21st century. Across these varied materials we will ask: what do we mean when we speak of dance, and what makes a dance Chinese? All materials in English; no background required.

Instructor(s): A. Fox Terms Offered: Spring

Equivalent Course(s): EALC 23970, TAPS 36270, TAPS 26270

## EALC 34950. Fictions of Selfhood in Modern Japanes Literature. 100 Units.

As Japanese leaders in the mid-19th century faced the threat of colonization at the hands of the Western powers, they launched a project to achieve 'Civilization and Enlightenment,' quickly transforming Japan into a global power that possessed its own empire. In the process fiction became a site for both political engagement and retreat. A civilized country, it was argued, was supposed to boast 'literature' as one of its Fine Arts. This literature was charged with representing the inner life of its characters, doing so in a modern national language that was supposed to be a transparent medium of communication. Between the 1880s and the early 1900s, a new language, new literary techniques, and a new set of ideologies were constructed to produce the 'self' in novels and short stories. As soon as these new practices were developed, however, they became the objects of parody and ironic deconstruction. Reading key literary texts from the 1880s through the 1930s, as well as recent scholarship, this course will re-trace this historical and literary unfolding, paying special attention to the relationship between language and subjectivity. All readings will be in English.

Equivalent Course(s): EALC 24950

Terms Offered: Spring

# EALC 37014. Voices from the Iron House: Lu Xun's Works. 100 Units.

An exploration of the writings of Lu Xun (1881-1936), widely considered the greatest Chinese writer of the past century. We will read short stories, essays, prose poetry, and personal letters against the backdrop of the political and cultural upheavals of early 20th century China and in dialogue with important English-language scholarly works.

Instructor(s): P. Iovene Terms Offered: Spring

Equivalent Course(s): FNDL 21907, CMLT 27014, EALC 27014

# EALC 38400. Modern Chinese Literature: Communities, Media & Selves. 100 Units.

In this in-depth introduction to modern Chinese literature we will combine close readings of texts with a survey of the ideas, media, and institutions that shaped literary practices from the 1900s to the 1930s. We will discuss authors, literary circles and associations, journals and publishers, as well as notions of self, language, and community. In doing so, we will pursue the following questions: What is a modern Chinese literary text, and what are its relevant contexts? How to connect literary writing-per se a highly individualized and largely solitary activity-with the forms of sociality and the collaborative practices in which it is embedded? How did various communities and institutions affect, and how were they affected by, the writing and reading of literature? Our focus will be on the ways in which authors and groups redefined the function of literature in times of upheaval, the transformations in language and media that shaped their efforts, and the ways in which they conceived of and sought to reach out to readers. Our explorations will be both historical and historiographical, and will touch on the main debates in modern Chinese literary studies today.

Instructor(s): P. Iovene Terms Offered: Winter

Equivalent Course(s): EALC 28400

## EALC 41005. Early Chinese Texts and Sociological Research. 100 Units.

The use of texts for sociological and cultural inquiry. This year the seminar addresses the theoretical and methodological issues arising from popular culture studies, manuscript culture studies, and the 'New Philology.' Instructor(s): Donald Harper Terms Offered: Winter Presentering (see the culture studies) consent culture studies.

Prerequisite(s): Consent only

# EALC 41102. Reading Archival Documents from the People's Republic of China. 100 Units.

This hands-on reading and research course aims to give graduate students the linguistic skills needed to locate, read, and analyze archival documents from the People's Republic of China. We will begin by discussing the functions and structure of Chinese archives at the central, provincial, and county level. Next we will read and translate sample documents drawn from different archives. These may include police reports, personnel files, internal memos, minutes of meetings, etc. Our aim here is to understand the conventions of a highly standardized communication system - for example, how does a report or petition from an inferior to a superior office differ from a top-down directive or circular, or from a lateral communication between adminstrations of equal rank? We will also read 'sub-archival' documents, i.e. texts that are of interest to the historian but did not make it into state archives, such as letters, diaries, contracts, and private notebooks. The texts we will read are selected to cast light on the everyday life of 'ordinary' people in the Maoist period. This course will be team-taught by me and historians of the PRC from other institutions, and will be open to selected students from outside the U of C. Non-Chicago students and teachers will participate via video conference.

Instructor(s): J. Eyferth Terms Offered: Autumn

Prerequisite(s): The course is meant for graduate students who are preparing for archival research in China or already working with archival documents.

Note(s): Open to MAPH and MAPSS students

Equivalent Course(s): HIST 41102

# EALC 41450. Peach Blossom Fan: Theater, History, and Politics. 100 Units.

This seminar probes the interplay of history, politics, and theatricality in Kong Shangren's Peach Blossom Fan, his dramatic masterpiece of 1699, which brilliantly depicts the fall of the Ming dynasty in 1644-1645 on multiple social, cultural, and ritual fronts, from the pleasure quarters and the imperial court to the Confucian Temple and the battlefield. Issues to be addressed include: the representation and reassessment of late Ming entertainment culture-courtesans, actors, storytellers, musicians, booksellers, painters; metatheatricality; memory and commemoration; props and material culture; the dissemination of news and (mis)information; the reenactment of the past on the stage, as we contextualize Peach Blossom Fan within the early Qing literary and theatricality in the modern reception of the play by analyzing its modern and contemporary incarnations in spoken drama, feature film, and different operatic genres.

Instructor(s): J. Zeitlin Terms Offered: Winter `

Note(s): Reading knowledge of modern and classical Chinese is desirable but not required. The course is open to MAPH students as well as Phd students.

Equivalent Course(s): TAPS 41450

# EALC 44450. Sound in Japanese Literature. 100 Units.

This course engages with the various uses of sound in Japanese literary texts, ranging from the late Edo period through the contemporary era. We will also read recent sound-oriented approaches to literary and cultural studies in both Japan and Anglo-American criticism. Readings will be in both English and Japanese.

Instructor(s): M. Bourdaghs Terms Offered: Spring

Prerequisite(s): Japanese reading ability

# EALC 45025. The Real and the Fake in Early Modern China. 100 Units.

This class explores the late imperial fascination with the boundaries between reality and illusion, genuine and counterfeit, self and role. Focusing on the period from the sixteenth to the eighteenth century-a period marked by both tremendous commercial growth and devastating political turmoil-we will trace the development of a discourse that at once imposes and seeks to overcome these categories of real and fake. In addition to readings from drama, fiction, and poetry, materials will include manuals on forgeries and scams, dream encyclopedias, designs for imaginary gardens, and guidebooks to fantastical realms. All readings available in English, but students with Chinese reading ability will be encouraged to read the original texts.

Instructor(s): Ariel Fox Terms Offered: Spring Equivalent Course(s): EALC 25025

#### EALC 45401. Western Zhou Bronze Inscriptions/Seminar. 100 Units.

This course will provide an overview of Chinese unearthed documents of the Eastern Zhou dynasty, including both bronze and stone inscriptions and also bamboo and silk manuscripts. By reading selections from these materials, we will seek to gain a general sense of both how they were produced and used at the time and also how their modern study has evolved. Instructor(s): E. Shaughnessy Terms Offered: Winter

Prerequisite(s): Proficiency in Literary Chinese.

Note(s): Open to undergraduates with consent. This course is a continuation of EALC 45400, although 45400 is not a prerequisite of EALC 45401.

## EALC 47111. Culture Fever: Chinese Literature in the 1980s. 100 Units.

The Chinese 1980s are now remembered as a highly creative period in literature and arts, and as a time of diverse political aspirations that culminated in the Tiananmen Square protests of 1989. Many debates and experiments throughout the decade revolved around the notion of 'culture.' What did this term mean in 1980s China, why was it considered important, and how to situate its meanings historically, both in relation to the Mao Era and to the changes that came after 1989? These are some of the questions we will address in this course, which will examine a variety of texts including poetry, fiction, interviews, diaries, and documentaries from and about the cultures of an exciting time.

Instructor(s): P. Iovene Terms Offered: Spring

Note(s): Texts will be in Chinese and English.

# EALC 59700. Thesis Research. 100 Units.

For course description contact East Asian Languages. Terms Offered: Autumn Prerequisite(s): Consent of instructor

# EALC 60000. Reading Course. 100 Units.

Independent reading course Terms Offered: Autumn Spring Winter Prerequisite(s): Consent of Instructor

#### EALC 65000. Directed Translation. 100 Units.

Fulfills translation requirement for EALC graduate students. Must be arranged with individual faculty member. Register by section with EALC faculty.

Terms Offered: Autumn Spring Winter Prerequisite(s): Consent of instructor

# CHINESE COURSES

#### CHIN 10100-10200-10300. Elementary Modern Chinese I-II-III.

This three-quarter sequence introduces the fundamentals of modern Chinese. By the end of Spring Quarter, students should have a basic knowledge of Chinese grammar and vocabulary. Listening, speaking, reading, and writing are equally emphasized. Accurate pronunciation is also stressed. In Spring Quarter, students are required to submit a video project for the Chinese Video Project Award. The class meets for five one-hour sessions a week. A drill session with the TA is held one hour a week in addition to scheduled class time. All courses in this sequence must be taken for a quality grade. No auditors permitted. Two sections.

## CHIN 10100. Elementary Modern Chinese I. 100 Units.

This three-quarter sequence introduces the fundamentals of modern Chinese. By the end of Spring Quarter, students should have a basic knowledge of Chinese grammar and vocabulary. Listening, speaking, reading, and writing are equally emphasized. Accurate pronunciation is also stressed. In Spring Quarter, students are required to submit a video project for the Chinese Video Project Award. The class meets for five one-hour sessions a week. A drill session with the TA is held one hour a week in addition to scheduled class time. All courses in this sequence must be taken for a quality grade. No auditors permitted.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): Consent of EALC Director of Undergraduate Studies

## CHIN 10200. Elementary Modern Chinese II. 100 Units.

Part 2 of this three-quarter sequence introduces the fundamentals of modern Chinese. By the end of the spring quarter, students should have a basic knowledge of Chinese grammar and vocabulary. Listening, speaking, reading, and writing are equally emphasized. Accurate pronunciation is also stressed. A video project is required in spring quarter, which will be entered in the competition for the Chinese Video Project Award. Class meets for five one-hour sessions each week. Additional small group discussions of 40 minutes per week will be arranged. Maximum enrollment for each section is 18.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): CHIN 10100, or placement, or consent of instructor

Note(s): Must be taken for a letter grade. No auditors permitted.

## CHIN 10300. Elementary Modern Chinese III. 100 Units.

Part 3 of this three-quarter sequence introduces the fundamentals of modern Chinese. By the end of the spring quarter, students should have a basic knowledge of Chinese grammar and vocabulary. Listening, speaking, reading, and writing are equally emphasized. Accurate pronunciation is also stressed. A video project is required in spring quarter, which will be entered in the competition for the Chinese Video Project Award. Class meets for five one-hour sessions each week. Additional small group discussions of 40 minutes per week will be arranged. Maximum enrollment for each section is 18.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): CHIN 10200, or placement, or consent of instructor Note(s): Must be taken for a letter grade. No auditors permitted. Equivalent Course(s): CHIN 33300

## CHIN 11100-11200-11300. First-Year Chinese for Bilingual Speakers I-II-III.

This three-quarter series is intended for bilingual speakers of Chinese. Our objectives include teaching students standard pronunciation and basic skills in reading and writing, while broadening their communication skills for a wider range of contexts and functions. The class meets for three one-hour sessions a week. Consultation with instructor encouraged prior to enrollment. All courses in this sequence must be taken for a quality grade.

## CHIN 11100. First-Year Chinese for Heritage Students I. 100 Units.

Part 1 of this three-quarter sequence introduces the fundamentals of modern Chinese to bilingual speakers. Bilingual Speakers are those who can speak Chinese but do not know how to read or write. By the end of the spring quarter, students should have a basic knowledge of Chinese grammar and vocabulary. Listening, speaking, reading, and writing are equally emphasized. Accurate pronunciation is also stressed. A video project is required in spring quarter, which will be entered in the competition for the Chinese Video Project Award. Class meets for three one-hour sessions each week MWF. Must be taken for a letter grade. No auditors permitted.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): Consent of Director of Chinese Language Program

## CHIN 11200. First-Year Chinese for Heritage Students-II. 100 Units.

Part 2 of this three-quarter sequence introduces the fundamentals of modern Chinese to bilingual speakers. Bilingual Speakers are those who can speak Chinese but do not know how to read or write. By the end of the spring quarter, students should have a basic knowledge of Chinese grammar and vocabulary. Listening, speaking, reading, and writing are equally emphasized. Accurate pronunciation is also stressed. A video project is required in spring quarter, which will be entered in the competition for the Chinese Video Project Award. Class meets for three one-hour sessions each week MWF.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): CHIN 11100, or placement, or consent of instructor Note(s): Must be taken for a letter grade. No auditors permitted.

## CHIN 11300. First-Year Chinese for Heritage Students-III. 100 Units.

Part 3 of this three-quarter sequence introduces the fundamentals of modern Chinese to bilingual speakers. Bilingual Speakers are those who can speak Chinese but do not know how to read or write. By the end of the spring quarter, students should have a basic knowledge of Chinese grammar and vocabulary. Listening, speaking, reading, and writing are equally emphasized. Accurate pronunciation is also stressed. A video project is required in spring quarter, which will be entered in the competition for the Chinese Video Project Award. Class meets for three one-hour sessions each week MWF.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): CHIN 11200, or placement, or consent of instructor Note(s): Must be taken for a letter grade. No auditors permitted.

# CHIN 15000. Chinese in Beijing. 100 Units.

## CHIN 20100-20200-20300. Intermediate Modern Chinese I-II-III.

The goal of this sequence is to enhance students' reading, listening, speaking, and writing skills by dealing with topics at an intermediate linguistic level. In addition to mastering the content of the textbook, students are required to complete two language projects each quarter. Chinese computing skills are also taught. The class meets for five one-hour sessions a week. All courses in this sequence must be taken for a quality grade. No auditors permitted. Two sections.

#### CHIN 20100. Intermediate Modern Chinese I. 100 Units.

Part 1 of this sequence aims to enhance students' reading, listening, speaking, and writing skills by dealing with topics at an intermediate linguistic level. In addition to mastering the content of the textbook, students are required to complete two language projects each quarter. Chinese computing skills are also taught. Class meets for five one-hour sessions each week.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): CHIN 10300, or placement, or consent of instructor Note(s): Must be taken for a letter grade. No auditors permitted.

#### CHIN 20200. Intermediate Modern Chinese II. 100 Units.

Part 2 of this sequence aims to enhance students' reading, listening, speaking, and writing skills by dealing with topics at an intermediate linguistic level. In addition to mastering the content of the textbook, students are required to complete two language projects each quarter. Chinese computing skills are also taught. Class meets for five one-hour sessions each week.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): CHIN 20100, or placement, or consent of instructor Note(s): Must be taken for a letter grade. No auditors permitted.

# CHIN 20300. Intermediate Modern Chinese III. 100 Units.

Part 3 of this sequence aims to enhance students' reading, listening, speaking, and writing skills by dealing with topics at an intermediate linguistic level. In addition to mastering the content of the textbook, students are required to complete two language projects each quarter. Chinese computing skills are also taught. Class meets for five one-hour sessions each week.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): CHIN 20200, or placement, or consent of instructor

Note(s): Must be taken for a letter grade. No auditors permitted.

Equivalent Course(s): CHIN 34300

# CHIN 31100-31200-31300. Business Chinese I-II-III.

This three-quarter sequence aims at improving overall language skills and introduces business terminology. Students learn about companies and their services and/or products, the stock market, real estate market, insurance, and e-commerce. The class meets for three ninety-minute sessions a week.

## CHIN 31100. Business Chinese I. 100 Units.

Part one of this three-quarter sequence aims at improving overall language skills and introduces business terminology. Students will learn about companies and their services and/or products, the stock market, real estate market, insurance, and e-commerce. Class meets for five one-hour sessions each week.

Terms Offered: Autumn

Prerequisite(s): CHIN 20300, or placement, or consent of instructor Equivalent Course(s): CHIN 20701

## CHIN 31200. Business Chinese II. 100 Units.

Terms Offered: Winter Prerequisite(s): CHIN 20701, or CHIN 31100, or placement, or consent of instructor Equivalent Course(s): CHIN 20702

## CHIN 31300. Business Chinese III. 100 Units.

Terms Offered: Spring Prerequisite(s): CHIN 20702, or CHIN 31200, or placement, or consent of instructor Equivalent Course(s): CHIN 20703

#### CHIN 20800-20900-21000. Elementary Literary Chinese I-II-III.

This sequence introduces the basic grammar of the written Chinese language from the time of the Confucian Analects to the literary movements at the beginning of the twentieth century. Students will read original texts of genres that include philosophy, memorials, and historical narratives. Spring Quarter is devoted exclusively to reading poetry. The class meets for two eighty-minute sessions a week. All courses in this sequence must be taken for a quality grade.

## CHIN 20800. Elementary Literary Chinese I. 100 Units.

Introduction to the Chinese literary language from the first millennium B.C.E. to the end of the imperial period. While surveying a variety of literary genres (such as, philosophical and historical texts, poetry, and essays), focus is on grammatical structures and translation methods.

Instructor(s): L. Skosey Terms Offered: Autumn

Prerequisite(s): CHIN 20300, or placement, or consent of instructor. Auditing is not permitted. Must be taken for a quality grade.

## CHIN 20900. Elementary Literary Chinese II. 100 Units.

Introduction to the Chinese literary language from the first millennium B.C.E. to the end of the imperial period. While surveying a variety of literary genres (such as, philosophical and historical texts, poetry, and essays), focus is on grammatical structures and translation methods.

Instructor(s): L. Skosey Terms Offered: Winter

Prerequisite(s): CHIN 20800, or placement, or consent of instructor. Auditing is not permitted. Must be taken for a quality grade.

#### CHIN 21000. Elementary Literary Chinese III. 100 Units.

Introduction to the Chinese literary language from the first millennium B.C.E. to the end of the imperial period. While surveying a variety of literary genres (such as, philosophical and historical texts, poetry, and essays), focus is on grammatical structures and translation methods.

Instructor(s): L. Skosey Terms Offered: Spring

Prerequisite(s): CHIN 20900, or placement, or consent of instructor. Auditing is not permitted. Must be taken for a quality grade.

#### CHIN 60000. Rdg Crse: Spec Topic Chinese. 100 Units.

#### CHIN 60100. Directed Rdg: Adv Chinese. 100 Units.

#### JAPANESE COURSES

# JAPN 10100-10200-10300. Elementary Modern Japanese I-II-III.

This is the first year of a three-year program, which is intended to provide students with a thorough grounding in modern Japanese. Grammar, idiomatic expressions, and vocabulary are learned through oral work, reading, and writing in and out of class. Daily practice in speaking, listening, reading, and writing is crucial. Students should plan to continue their language study through at least the second-year level to make their skills practical. The class meets for five fifty-minute sessions a week. All courses in this sequence must be taken for a quality grade. No auditors permitted.

#### JAPN 10100. Elementary Modern Japanese I. 100 Units.

This is the first year of a three-year program, which is intended to provide students with a thorough grounding in modern Japanese. Grammar, idiomatic expressions, and vocabulary are learned through oral work, reading, and writing in and out of class. Daily practice in speaking, listening, reading, and writing is crucial. Students should plan to continue their language study through at least the second-year level to make their skills practical. The class meets for five fifty-minute sessions a week. All courses in this sequence must be taken for a quality grade. No auditors permitted. Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): Placement, or consent of instructor

#### JAPN 10200. Elementary Modern Japanese II. 100 Units.

Must be taken for a letter grade. No auditors permitted. This is the first year of a three-year program designed to provide students with a thorough grounding in Modern Japanese. Grammar, idiomatic expressions, and vocabulary are learned through oral work, reading, and writing in and out of class. Daily practice in speaking, listening, reading and writing is crucial. Students should plan to continue their language study through at least the second-year level to make their skills practical. The class meets for five fifty-minute periods a week.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): JAPN 10100, or placement, or consent of instructor

## JAPN 10300. Elementary Modern Japanese-III. 100 Units.

This is the first year of a three-year program designed to provide students with a thorough grounding in Modern Japanese. Grammar, idiomatic expressions, and vocabulary are learned through oral work, reading, and writing in and out of class. Daily practice in speaking, listening, reading and writing is crucial. Students should plan to continue their language study through at least the second-year level to make their skills practical. The class meets for five fifty-minute periods a week.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): JAPN 10200, or placement, or consent of instructor

## JAPN 20100-20200-20300. Intermediate Modern Japanese I-II-III.

The emphasis on spoken language in the first half of the course gradually shifts toward reading and writing in the latter half. Classes conducted mostly in Japanese. The class meets for five fifty-minute sessions a week. All courses in this sequence must be taken for a quality grade. No auditors permitted.

#### JAPN 20100. Intermediate Modern Japanese I. 100 Units.

JAPN20100 continues to work on building a solid foundation for basic Japanese language skills while preparing students to progress to an Intermediate level. The emphasis on the spoken language gradually shifts toward reading and writing in JAPN 20200 and 20300, but spoken Japanese continues to be enriched throughout the sequence. Students at this level will be able to handle successfully a variety of uncomplicated communicative tasks in straightforward social situations. The class meets for five fifty-minute sessions each week, conducted mostly in Japanese. All courses in this sequence must be taken for a quality grade. No auditors permitted.

Terms Offered: Autumn

Prerequisite(s): JAPN 10300, or placement, or consent of instructor

#### JAPN 20200. Intermediate Modern Japanese II. 100 Units.

The emphasis on spoken language in the first half of the course gradually shifts toward reading and writing in the latter half. The course is conducted mostly in Japanese and meets for five fifty-minute periods a week. Terms Offered: Winter

Prerequisite(s): JAPN 20100, or placement, or consent of instructor

Note(s): Must be taken for a letter grade.

# JAPN 20300. Intermediate Modern Japanese III. 100 Units.

The emphasis on spoken language in the first half of the course gradually shifts toward reading and writing in the latter half. The course conducted mostly in Japanese and meets for five fifty-minute periods a week.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): JAPN 20200, or placement, or consent of instructor

Note(s): Must be taken for a letter grade. No auditors permitted.

# JAPN 21200-21300. Intermediate Modern Japanese through Japanimation I-II.

This sequence focuses on learning spoken Japanese that is aimed at native speakers. Our goals are to get students accustomed to that sort of authentic Japanese and to enable them to speak with high fluency. To keep the balance, writing and reading materials are provided. Students are encouraged to watch videos and practice their speaking.

# JAPN 21200. Intermediate Modern Japanese Through Japanimation I. 100 Units.

This course focuses on learning spoken Japanese through full-length Japanese animated films. To ensure balance in learning, writing and reading materials are also provided. Students at this level are able to handle successfully a variety of uncomplicated communicative tasks in straightforward social situations. The class meets for five fifty-minute sessions each week. All courses in this sequence must be taken for a quality grade. No auditors permitted. Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): JAPN 20100, or placement, or consent of instructor

# JAPN 21300. Intermediate Modern Japanese through Japanimation II. 100 Units.

This course focuses on learning spoken Japanese that is aimed at native speakers. The goals are getting accustomed to that sort of authentic Japanese and being able to speak with a high degree of fluency. To keep a balance, writing and reading materials are provided. Watching videos and practicing speaking are the keys to success in this course. Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): JAPN 21200, or placement, or consent of instructor

## JAPN 20401-20402-20403. Advanced Modern Japanese I-II-III.

The third year marks the end of the basic modern language study. Our goal is to help students learn to understand authentic written and spoken materials with reasonable ease. The texts are all authentic materials with some study aids. Classes conducted in Japanese. The class meets for three eighty-minute sessions a week. All courses in this sequence must be taken for a quality grade.

#### JAPN 20401. Advanced Modern Japanese I. 100 Units.

The goal is to help students learn to understand authentic written and spoken materials with reasonable ease and to solidify the grammar, vocabulary and kanji foundation built during the students' study at Elementary and Intermediate Modern Japanese levels. Students will expand their four language skills (speaking, listening, reading, and writing) as well as the socio-cultural knowledge they need for communication, thereby easing their transition into Advanced Japanese. The class meets for three eighty-minute sessions each week. All courses in this sequence must be taken for a quality grade. No auditors permitted.

#### Terms Offered: Autumn

Prerequisite(s): JAPN 20300, or placement, or consent of instructor

#### JAPN 20402. Advanced Modern Japanese II. 100 Units.

The third year marks the end of the basic modern language study. Our goal is to help students learn to understand authentic written and spoken materials with reasonable ease. The texts are all authentic materials with some study aids. Classes conducted in Japanese. The class meets for three eighty-minute sessions a week. All courses in this sequence must be taken for a quality grade.

Terms Offered: Winter

Prerequisite(s): JAPN 20401, or JAPN 30100, or placement, or consent of instructor Equivalent Course(s): JAPN 30200

#### JAPN 20403. Advanced Modern Japanese III. 100 Units.

The third year marks the end of the basic modern language study. The purpose of the course is to help students learn to understand authentic written and spoken materials with reasonable ease. The texts are all authentic materials with some study aids. All work in Japanese. The class meets for three eighty-minute periods a week. Terms Offered: Spring

Prerequisite(s): JAPN 20402, or JAPN 30200, or placement, or consent of instructor

# JAPN 24900. Pre-Modern Japanese: Kindai Bungo I. 100 Units.

The course is a systematic introduction to pre-modern texts written in classical Japanese (bungo or kogo), the standard written language in Japan up to the early twenteith century. We will focus on the fundamentals of grammar as well as read original texts dating primarily to the medieval period. The goal is to acquire a firm foundation in bungo and to be able to read pre-modern texts with the help of a dictionary.

Instructor(s): O. Porath Terms Offered: Spring

Prerequisite(s): JAPN 20300 or equivalent, or consent of instructor.

Equivalent Course(s): JAPN 34900

# JAPN 20600. Fourth-Year Modern Japanese II. 100 Units.

Open to both undergraduates and graduates. This course is designed to improve Japanese reading, speaking, writing and listening ability to the advanced high level as measured by the ACTFL (American Council on the Teaching of Foreign Languages) Proficiency Guidelines. Weekly assignments will require students to tackle modern Japanese texts of varying length and difficulty. Organized around a range of thought-provoking themes (from brain death and organ transplants to Japanese values on work and religion), reading assignments will include academic theses in psychology and anthropology, literary texts, and popular journalism. After completing the readings, students will be encouraged to discuss each topic in class. Videos/DVDs will be used to improve listening comprehension skills. There will also be writing assignments.

Prerequisite(s): JAPN 20500, or JAPN 40500, or placement, or consent of instructor

Equivalent Course(s): JAPN 40600

# KOREAN COURSES

# KORE 10100-10200-10300. Introduction to the Korean Language I-II-III.

This introductory sequence is designed to provide a basic foundation in modern Korean language and culture by focusing on the balanced development of the four basic language skills of speaking, listening comprehension, reading, and writing. Students in KORE 10100 begin by learning the complete Korean writing system (Hangul), which is followed by lessons focusing on basic conversational skills and grammatical structures. To provide sufficient opportunities to apply what has been learned in class, there are small group drill sessions, weekly Korean television drama screenings, and a number of other cultural activities (e.g., Korean New Year's game competitions). The class meets for five fifty-minute sessions a week. All courses in this sequence must be taken for a quality grade.

# KORE 10100. Introduction to the Korean Language I. 100 Units.

This introductory course is designed to provide beginners with a solid foundation in modern Korean focusing on the balanced development of the four basic language skills of speaking, listening comprehension, reading, and writing. Along with basic conversational and grammatical patterns, the course introduces students to Korean culture through various channels such as Korean movies, music, and a number of other cultural activities. Must be taken for a letter grade.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): Placement, or consent of instructor

## KORE 10200. Introduction to the Korean Language II. 100 Units.

Must be taken for a letter grade. This introductory course is designed to provide beginners with a solid foundation in modern Korean focusing on the balanced development of the four basic language skills of speaking, listening comprehension, reading, and writing. Along with basic conversational and grammatical patterns, the course introduces students to Korean culture through various channels such as Korean movies, music, and a number of other cultural activities.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): KORE 10100, or placement, or consent of instructor

## KORE 10300. Introduction to the Korean Language III. 100 Units.

Must be taken for a letter grade. This introductory course is designed to provide beginners with a solid foundation in modern Korean focusing on the balanced development of the four basic language skills of speaking, listening comprehension, reading, and writing. Along with basic conversational and grammatical patterns, the course introduces students to Korean culture through various channels such as Korean movies, music, and a number of other cultural activities.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): KORE 10200, or placement, or consent of instructor

# KORE 20100-20200-20300. Intermediate Korean I-II-III.

As a continuation of KORE 10100-10200-10300, this sequence is intended to continue to build on students' language skills with an emphasis on enhancing the speaking ability, presentational skills, composition writing skills, and usage of more complex constructions. Approximately 150 Chinese characters are introduced for the achievement of basic literacy and vocabulary expansion. The curriculum also includes media, authentic reading materials, and weekly Korean language table meetings to maximize cultural exposure and opportunities to apply Korean language skills in real life situations. The class meets for five fifty-minute sessions a week. All courses in this sequence must be taken for a quality grade.

## KORE 20100. Intermediate Korean I. 100 Units.

As a continuation of KORE 10100-10200-10300, this sequence is intended to continue to build on students' language skills with an emphasis on enhancing the speaking ability, presentational skills, composition writing skills, and usage of more complex constructions. Approximately 150 Chinese characters are introduced for the achievement of basic literacy and vocabulary expansion. The curriculum also includes media, authentic reading materials, and weekly Korean language table meetings to maximize cultural exposure and opportunities to apply Korean language skills in real life situations. The class meets for five fifty-minute sessions a week. All courses in this sequence must be taken for a quality grade.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): KORE 10300, or placement, or consent of instructor

## KORE 20200. Intermediate Korean II. 100 Units.

As a continuation of Beginning Korean, this course is to help students increase their communication skills (both oral and written) in the Korean language. Through an integrated framework of listening, speaking, reading, and writing, this course aims to increase fluency and accuracy in Korean. Videotapes and additional reading materials will be used in a supplementary fashion and approximately 100 Chinese characters will be introduced for the achievement of basic literacy. Classes are conducted mostly in Korean and meet for fifty-minute periods five times a week. Must be taken for a letter grade.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): KORE 20100, or placement, or consent of instructor

## KORE 20300. Intermediate Korean III. 100 Units.

As a continuation of Beginning Korean, this course is to help students increase their communication skills (both oral and written) in the Korean language. Through an integrated framework of listening, speaking, reading, and writing, this course aims to increase fluency and accuracy in Korean. Videotapes and additional reading materials will be used in a supplementary fashion and approximately 100 Chinese characters will be introduced for the achievement of basic literacy. Classes are conducted mostly in Korean and meet for fifty-minute periods five times a week. Must be taken for a letter grade.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): KORE 20200, or placement, or consent of instructor

#### KORE 41100. Fourth-Year Modern Korean I. 100 Units.

The first in a series of three consecutive courses focuses on improving speaking, listening, reading, and writing skills to high-advanced level. Through intensive readings and discussions, students will build extensive vocabulary and complex grammatical structures as well as developing sophisticated speaking skills and academic writing skills. The materials introduced in this class include newspaper articles dealing with current social, cultural, or economic issues in Korea, literary works such as poems and novels, and authentic media such as TV documentaries or movies. Equivalent Course(s): KORE 21100

#### KORE 41200. Fourth-Year Modern Korean II. 100 Units.

The second of three consecutive courses focuses on improving speaking, listening, reading, and writing skills to highadvanced level. Through intensive readings and discussions, students will build extensive vocabulary and complex grammatical structures as well as developing sophisticated speaking skills and academic writing skills. The materials introduced in this class include newspaper articles dealing with current social, cultural, or economic issues in Korea, literary works such as poems and novels, and authentic media such as TV documentaries or movies. Equivalent Course(s): KORE 21200



# Department of English Language and Literature

# Chair

Deborah Nelson

Faculty

- Lauren G. Berlant
- Bill Brown
- James K. Chandler
- Maud Ellmann
- Frances Ferguson
- Elaine Hadley
- Loren A. Kruger
- Josephine McDonagh
- William J. T. Mitchell
- Sianne Ngai
- Joshua Keith Scodel
- Kenneth W. Warren
- John Wilkinson
- Adrienne Brown
- Timothy Campbell
- Patrick Jagoda
- Heather Keenleyside
- Ellen MacKay
- John Mark Miller
- Benjamin Morgan
- John H. Muse
- Srikanth Reddy
- Lawrence Rothfield
- Lisa C. Ruddick
- Jennifer Scappettone
- Eric Slauter
- Rachel Galvin
- Edgar Garcia
- Timothy Harrison
- Julie Orlemanski
- Benjamin Saltzman
- Zachary Samalin
- C. Riley Snorton
- Christopher Taylor
- Sonali Thakkar

Emeritus Faculty

- David Bevington
- Elizabeth Helsinger
- Richard Allen Strier
- William Veeder
- Christina von Nolcken

Postdoctoral Fellows

- Lucy Alford
- Sophia Azeb
- Kaneesha Parsard

#### Tina Post

Sarah Johnson

Graduate students in English work with a distinguished faculty of critics and scholars to develop their own interests over a broad range of traditional and innovative fields of research. The program aims to help students attain a wide substantive command of British, American, and other English language literatures. In addition to specializations in the full range of chronologically defined fields, the program includes generous offerings in African American studies, Gender and Sexuality Studies, the Novel, and Media Studies. Students are also trained in textual studies, editing, literary and cultural history, and a variety of critical theories and methodologies. The interests of both faculty and students often carry through to neighboring disciplines like anthropology, sociology, history, art history, linguistics, and philosophy. The University provides a supportive environment for advanced studies of this kind.

### The Degree of Doctor of Philosophy

The program leading to the Ph.D. degree aims primarily to prepare students for independent work as teachers, scholars, and critics by developing their abilities to pose and investigate problems in the advanced study of literatures in English and in film. Departmental requirements are designed to lead to the doctorate in five to six years. Course work, the preparation of oral fields examinations, workshops, teaching, and the dissertation introduce students to a variety of textual modes, critical methodologies, and historical/cultural problems; provide extensive practice in research, discussion, argument, and writing; and develop pedagogical skills through supervised teaching. While a student's progress will be carefully monitored and periodically evaluated by individual advisors and the department, all students will be accepted into the program on the assumption that they will proceed to the Ph.D.

In the first two years of the Ph.D. program, students are required to enroll in six graduate courses each year. All firstyear students also participate in a one-quarter colloquium designed to introduce theoretical and practical questions posed by the study of literature (through readings in a range of theoretical and literary texts). In their third year, students will also take a one quarter course in various approaches to the teaching of literature and composition and a one quarter Advanced Writing Workshop.

Note: Students entering with an M.A. degree in English will be asked to complete at least one year of coursework (six courses) plus two additional courses in their second year, participate in the Autumn Quarter colloquium, and take the one quarter course on teaching in either their second or third years.

Students in their third and fourth years will normally teach at least one quarter-long course each year, initially as course assistants in departmental courses for undergraduates, then as instructors in courses of their own design. Students may also be employed as writing tutors, assistants in introductory humanities and social sciences core courses, instructors in the College Writing Program course in expository writing (which provides its own training in the teaching of composition), or as teachers at other area colleges and universities. The department believes that both training and experience in teaching is an important part of the graduate program.

#### The Degree of Master of Arts

Students seeking a master's degree should apply to the Master of Arts Program in the Humanities (MAPH), a threequarter program of interdisciplinary study in a number of areas of interest to students, including literature and film. MAPH permits students to take almost all of their courses in the English Department, sharing classes with students in the Ph.D. program. The resulting degree is equivalent to an M.A. in English. Further details about the MAPH program are available at http://maph.uchicago.edu.

## Inquiries

For more information on the department's programs and requirements, please see the Department of English website at http://english.uchicago.edu or contact the departmental staff at englishsupport@uchicago.edu.

# Information on how to apply

The application process for admission and financial aid for all graduate programs in the Humanities is administered through the divisional Office of the Dean of Students. Please visit http://humanities.uchicago.edu/students/admissions (http:// humanities.uchicago.edu/students/admissions/) for further information and instructions on how to apply.

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu/), or call them at (773) 702-7752.

English Language and Literature Courses

#### ENGL 30100. Introduction to Religion and Literature. 100 Units.

TBD

Instructor(s): R. Rosengarten, S. Hammerschlag Terms Offered: Winter Equivalent Course(s): RLIT 30000, RLST 28210

## ENGL 30201. Advanced Theories of Gender and Sexuality. 100 Units.

Beginning with the breakup of the New Left and the proliferation of "new social movements" such as feminism, Black Power, and gay liberation, this seminar explores the key debates around which gender and sexuality were articulated as politically significant categories. How did feminist and queer politics come to be scripted increasingly in terms of identity and its negation? To what extent has a juridical and state-centered conception of politics come to displace quotidian practices of freedom and world-building? What are the limits to rights-oriented political movements? What are the political implications of the recent ontological turn to affect in feminist and queer theory?

Instructor(s): Linda Zerilli Terms Offered: Winter

Note(s): Undergraduates by consent only.

Equivalent Course(s): PLSC 21410, PLSC 31410, ENGL 21401, GNSE 31400, GNSE 21400, MAPH 36500

#### ENGL 30550. Gothic Fiction. 100 Units.

Gothic novels are obsessed with what gets left out of rational accounts of experience: fantastic or inexplicable events, feelings of terror, horror, and haunting, scenarios of vulnerability, violence, or pathological desire. In this course, we will ask: when or in what ways does the gothic provide an escape from everyday life? And, when and in what ways does it mirror aspects of psychological, political, or social reality? We will explore these questions by focusing on classic gothic fiction from the mid-eighteenth to the early nineteenth century. Our interests will be literary as well as political and psychological: we will think together about how gothic fiction shapes or challenges what we typically expect from novels, particularly at this nascent moment in the history of both the novel form and the gothic tradition. While we will supplement our readings with a small selection of contextual/critical material throughout the quarter, this course is conceived mainly as an opportunity to engage closely with the novels themselves. (18th/19th) Instructor(s): Heather Keenleyside Terms Offered: Winter

# ENGL 30905. The Print Revolution and New Readers: Women, Workers, Children. 100 Units.

In this course we will examine the explosive proliferation of print-books, newspapers, journals, magazines, pamphlets, illustrations-during the eighteenth and nineteenth centuries. One of the most striking effects of this "Print Revolution" was the extension of reading material to new groups of readers. We will pay particular attention to the changing ways in which women, workers, and children accessed and interacted with printed texts. With the help of literary, historical, and sociological scholarship, we will aim to understand the Print Revolution in relation to the political revolutions, intellectual paradigms, and social upheavals of the eighteenth and nineteenth centuries. This course will meet regularly in the Special Collections Research Center in Regenstein Library where we will have the opportunity to work with primary source materials first hand. (18th/19th)

Instructor(s): Alexis Chema Terms Offered: Spring Equivalent Course(s): GNSE 30905

## ENGL 31101. Romantic Poetry. 100 Units.

In the wake of the American and French Revolutions, and still in the early days of the worlds first Industrial Revolution, two British poets-William Wordsworth and Samuel Taylor Coleridge--set out to produce another kind of revolution that they hoped could save their readers from a harsh new world of culture and sensibility brought on by "causes unknown to former times." Their experiments in poetry were informed by a likewise unprecedented analysis of the problems that they saw besetting their own moment. It was an extraordinary exercise in critical media theory very much avant la lettre. Both the experiments and the analysis had far-reaching on poets of their moment-especially Shelley and Keats-and poets beyond it, and have mattered much to the modern understanding of literature and criticism well into the twentieth century and into our own time. This course will take up the challenge of coming to terms with the Romantic "revolution in taste" in close engagements with both familiar and unfamiliar works. We will read other poets of the period, including Blake, Byron, Charlotte Smith, and Anna Laetitia Barbauld-and also come to terms with the massive legacy of Romantic poetry and poetics ever since, not least in the formation of modern practical criticism. There will be a short paper (3-4 pp.) and a longer one (15 pp.). (18th/19th)

Instructor(s): James Chandler Terms Offered: Winter

## ENGL 31285. Toni Morrison, beloved and a mercy. 100 Units.

How lovely it is, this thing we have done - together. Beginning with Morrison's 1993 Nobel Prize Lecture, this class will read (for many reread) two of Toni Morrison's novels that pose the house and household as a "site of memory" in which to dramatize gendered histories of race in North America. Our class will annotate together Beloved and A Mercy with the essays, films, poetry of various scholars, in addition to some of Morrison's literary critical and historical writings. Our in-depth reading of these two works will provide a foundation for engaging in ongoing debates about race and writing in literary studies, black feminists critiques of the classroom, and histories of race-based slavery in North America. If, as Morrison contends, "language" teaches us "how to see without pictures" and that "language alone protects us from the scariness of things with no names," we will aim to hold language close as we consider "what moves at the margin. What it is to have no home in this place. To be set adrift from the one you knew. What it is to live at the edge of towns that cannot bear your company." (20th/21st)

Instructor(s): Sarah Johnson Terms Offered: Autumn Equivalent Course(s): GNSE 31285

# ENGL 32011. Data: History and Literature. 100 Units.

Data is a notion that seems to characterize our contemporary world. Digital revolutions, artificial intelligence, and new forms of management and governance all claim to be data-driven. This course traces the origins of these trends to the nineteenth century, when new statistical knowledges and literary traditions emerged. Moving across disciplinary boundaries, we will analyze the ways in which practices of observation and calculation produced data on populations, crime, and economies. Likewise, the literature of this period reflected the ways that data shaped subjective experience and cultural life: the rise of the detective novel transformed the world into a set of signs and data points to interpret, while Balzac's Human Comedy classified individuals into types. Drawing on these historical and humanistic perspectives, students will have the opportunity to measure and analyze their own lives in terms of data-as well as think critically about the effects of these knowledge practices.

Instructor(s): Alexander Campolo, Anastasia Klimchynskya Terms Offered: Autumn

Note(s): undergrads permitted with permission of instructors

Equivalent Course(s): SOCI 30518, SOCI 20518, DIGS 30016, KNOW 32011, STAT 36711, SCTH 32011, HIPS 22011, CHSS 32011, PPHA 32011, KNOW 22011

# ENGL 32104. Hymns. 100 Units.

The course will track hymns from the early modern period through the late eighteenth century. We'll examine the evolution of the hymn as a literary form, focusing on obsolescence and adaptation in literary transmission. We'll start with the Psalms of the Hebrew Bible, and analyze psalters (such as the one produced by Mary Herbert, Countess of Pembroke, and her brother, Sir Philip Sidney) and the metrical psalms of Sternhold and Hopkins that were used in Anglican services. We'll tent take up the development of congregational hymns, hymns sung by everyone in a congregation, to track the way that literary adaptation among Dissenters became both common and controversial. We'll look at Isaac Watts's multiple hymns for each of the Psalms, his later Hymns and Spiritual Songs, and his Divine Songs for children to get at the importance he and other Dissenters (such as Anna Letitia Barbauld) attached to supplying words to all who could sing or say them. We'll end with a discussion of "Amazing Grace" and its use in the British abolition movement, and with a discussion of the movement of the literary hymns, Shelley's and Keats's odes. (18th/19th) Instructor(s): Frances Ferguson Terms Offered: Autumn

Equivalent Course(s): RLVC 32104

## ENGL 32123. Ecopoetics: Literature and Ecology. 100 Units.

This course will explore a range of literary responses to the period commonly known as the anthropocene, understood as the geological age in which the prevailing economic and social paradigms of humans have conditioned changes in climate and the environment. We will read foundational texts in environmental perception and activism (Ruskin's "Storm-Cloud of the Nineteenth Century" and Rachel Carson's Silent Spring) in dialogue with modernist work engaging with urban landscapes (William Carlos Williams's Paterson). We will then open onto a wide range of contemporary texts that engage the natural and constructed environment in crisis. In tandem with our readings, fieldwork throughout Chicago (on the Chicago River, at local Superfund sites, at the Chicago Architecture Biennial) will expand our awareness of how global and regional crises manifest locally, and introduce students to new methods of engaging with ecological challenges. (20th/21st) Instructor(s): Jennifer Scappettone Terms Offered: Autumn

## ENGL 32300. Marxism and Modern Culture. 100 Units.

Designed for graduate students in the humanities, this course begins with fundamental texts on ideology and the critique of capitalist culture by Marx, Engels, Lenin, Gramsci, Althusser, Wilhelm Reich and Raymond Williams, before moving to Marxist aesthetics, from the orthodox Lukács to the Frankfurt School (Adorno, Benjamin) to the heterodox (Brecht), and concludes with contemporary debates around Marxism and imperialism (Lenin, Fanon, and others), and Marxism and media, including the internet. This course will have a particular focus on guiding students through the conventions of academic writing in the Humanities.

Instructor(s): Loren Kruger Terms Offered: Winter

Prerequisite(s): Humanities graduate students and equivalent (eg DIV school; not suitable for MAPSS or Social Science PhDs

Equivalent Course(s): CMLT 31600, MAPH 31600

#### ENGL 32302. War and Peace. 100 Units.

Tolstoy's novel is at once a national epic, a treatise on history, a spiritual meditation, and a masterpiece of realism. This course presents a close reading of one of the world's great novels, and of the criticism that has been devoted to it, including landmark works by Victor Shklovsky, Boris Eikhenbaum, Isaiah Berlin, and George Steiner. (B, G) Instructor(s): William Nickell Terms Offered: TBD

Equivalent Course(s): REES 20001, FNDL 27103, HIST 23704, CMLT 32301, CMLT 22301, ENGL 28912, REES 30001

#### ENGL 32312. Virtual Theaters. 100 Units.

This course probes the nature and limits of theater by exploring a range of theatrical texts from various centuries whose relation to performance is either partially or fully virtual, including philosophical dialogues, closet dramas, novel chapters in dramatic form, drama on social media, digital theater, algorithmic theater, mixed reality performance, and transmedia games. (20th/21st)

Instructor(s): John Muse Terms Offered: Winter Equivalent Course(s): TAPS 32312

# ENGL 32650. Early Science Fiction. 100 Units.

This course will explore the cultural anxieties surrounding-chiefly-class, race, gender, and colonization expressed in early modern European works of speculative fiction. The syllabus will include fiction by Thomas More, Tommaso Campanella, Shakespeare, Francis Bacon, Johannes Kepler, Francis Godwin, Cyrano de Bergerac, Henry Neville, and Margaret Cavendish, using speculative fiction to look at early modernity through the lens of critical theory. (Med/Ren) Instructor(s): Noémie Ndiaye Terms Offered: Spring

# ENGL 32705. Composing Composition: Writing Pedagogy. 100 Units.

Composing Composition is a course for graduate students who plan to work as teachers or who are entering the academic job market. This course provides a scholarly context and practical exercises that will prepare graduate students for the challenges of writing-related jobs in institutional contexts ranging from large research universities to small liberal arts schools. The course will prepare you to discuss the teaching of writing in applications to and interviews for academic jobs and fellowships.

Instructor(s): Tracy Weiner, Linda Smith-Brecheisen Terms Offered: Autumn Prerequisite(s): None

Note(s): Graduate students ONLY - limit 12.

# ENGL 32821. Art and Public Life. 100 Units.

The aim of this seminar-colloquium will be to work through some of the most advanced thinking on ideas about publics and their relation to questions of community, politics, society, culture, and the arts. From John Dewey through Hannah Arendt and Jurgen Habermas, the notion of the public has remained central to a wide variety of debates in the humanities and social sciences. What is a public? How are publics constituted? What is the role of real and virtual space, architectural design, urban planning, and technical media, in the formation of publics? And, most centrally for our purposes, what role can and do the arts play in the emergence of various kinds of publics? The colloquium aspect of the course will involve visiting speakers from a variety of disciplines, both from the University of Chicago faculty, and from elsewhere.

Instructor(s): W.J.T. Mitchell, T. Gates Terms Offered: Autumn Equivalent Course(s): CMST 37802, ARTH 47911, MUSI 35014, ARTV 37911

## ENGL 33000. Academic and Professional Writing (The Little Red Schoolhouse) 100 Units.

Academics and professionals need advanced writing skills if they are to communicate effectively and efficiently. In this intensive, pragmatic course, students master the writing skills they need by first studying and then applying fundamental structures of effective writing. Each week, students meet in a synchronous small-group seminars to discuss each other's papers and then watch asynchronous lecture videos on a new principle. Discussion, editing, critiques, and rewrites ensure that all students sharpen their ability to write with clarity and power.

Instructor(s): L. McEnerney, K. Cochran, T. Weiner Terms Offered: Spring Winter

Prerequisite(s): Third- or fourth-year standing

Note(s): This course does not count towards the ISHU program requirements. May be taken for P/F grading by students who are not majoring in English. Materials fee \$20.

Equivalent Course(s): ENGL 13000

# ENGL 33809. Muses and Saints: Poetry and the Christian Imagination. 100 Units.

This course provides an introduction to the poetic traditions of early Christians and the intersection between poetic literature, theology, and biblical interpretation. Students will gain familiarity with the literary context of the formative centuries of Christianity with a special emphasis on Greek and Syriac Christians in the Eastern Mediterranean from the fourth through the sixth centuries. While theology is often taught through analytical prose, theological reflection in late antiquity and early Byzantium was frequently done in poetic genres. This course introduces students to the major composers and genres of these works as well as the various recurrent themes that occur within this literature. Through reading poetry from liturgical and monastic contexts, students will explore how the biblical imaginations of Christians were formed beyond the confines of canonical scripture. How is poetry a mode of "doing" theology? What habits of biblical interpretation and narration does one encounter in this poetry? This course exposes students to a variety of disciplinary frameworks for studying early Christian texts including history, religious studies, feminist and literary critique, as well as theology. Students will also analyze medieval and modern poetry with religious themes in light of earlier traditions to reflect on the poetry and the religious imagination more broadly.

Instructor(s): Erin Galgay Walsh Terms Offered: Spring

Note(s): Open to undergraduate and graduate students; Graduate students may choose to attend weekly translation group Equivalent Course(s): RLVC 33000, CLCV 26119, CLAS 36119, HCHR 33000, RLST 23000, MDVL 23000, GNSE 34104, BIBL 33000, GNSE 24104

## ENGL 34100. Foundations of Interpretive Theory. 100 Units.

The MAPH Core Course, Foundations of Interpretive Theory, begins two weeks before regular University classes and covers seminal works by thinkers such as Freud, Lacan, and Marx. It is taught by the MAPH Director and Deputy Director and may include guest lectures by distinguished faculty members from different disciplines. The course is designed to give MAPH students a shared base for their further study.

Equivalent Course(s): MAPH 30100

# ENGL 34114. Representing Revolutions. 100 Units. TBD

Instructor(s): Larry Rothfield Terms Offered: Spring Equivalent Course(s): CMLT 34104, CMLT 24104, ENGL 24114

## ENGL 34240. Readings in Exile. 100 Units.

This course will read across "subaltern" autobiographical and literary narratives of exile in order to interrogate the condition of exile in the twentieth and twenty-first centuries. How is the exile discursively distinguished from the refugee, the migrant, the immigrant? How do the various origins and forms of exile - emergent from colonialism, war, racism, xenophobia, political dissidence, and disposession - inform our understanding of these broader global machinations? Readings will include works by Edward Said, Kathleen Neal Cleaver, Stuart Hall, and Mahmoud Darwish, among others. (20th/21st) Instructor(s): Sophia Azeb Terms Offered: Winter

Equivalent Course(s): CMLT 34240

# ENGL 34255. America's Literary Scientists. 100 Units.

This course targets in on the entanglements between science and literature during the nineteenth and early twentieth century in America-a historical moment when these realms did not appear nearly as divided as they do now. In particular, we attend to the period's exciting developments in biology, which promised to revolutionize contemporary notions of human being. Our analysis of American fiction will center on the subjects and methods that writers adopted (imaginatively and often critically) from fields like evolutionary science, microbiology, and experimental psychology. But the course syllabus also includes American scientists who wrote fiction: What types of knowledge did they hope to produce in becoming literary? The aim of our inquiry will, in large part, be to examine the role of literature in shaping the significance of science in American culture, as well as the role of science in helping to build an American literary canon. Along the way, we will track the kinds of experiments in form and genre that such literary-scientific hybrids might produce. Readings may include works by Henry Adams, W.E.B. Du Bois, Charlotte Perkins Gilman, Oliver Wendell Holmes, William James, Silas Weir Mitchell, Mark Twain, and Edith Wharton. Theoretical and critical works will be drawn from the history of science, science and technology studies, and nonhuman studies.

Instructor(s): Agnes Malinowska Terms Offered: Spring

Note(s): Open to 3rd and 4th years in the College and MA students

Equivalent Course(s): ENGL 24255, MAPH 34255

# ENGL 34407. Critique of Humanism. 100 Units.

This course will provide a rapid-fire survey of the philosophical sources of contemporary literary and critical theory. We will begin with a brief discussion of the sort of humanism at issue in the critique-accounts of human life and thought that treat the individual human being as the primary unit for work in the humanities and the humanistic social sciences. This kind of humanism is at the core of contemporary common sense. It is, to that extent, indispensable in our understanding of how to move around in the world and get along with one another. That is why we will conduct critique, rather than plain criticism, in this course: in critique, one remains indebted to the system under critical scrutiny, even while working to understand its failings and limitations. Our tour of thought produced in the service of critique will involve work by Hegel, Marx, Gramsci, Freud, Fanon, Lacan, and Althusser. We will conclude with a couple of pieces of recent work that draws from these sources. The aim of the course is to provide students with an opportunity to engage with some extraordinarily influential work that continues to inform humanistic inquiry. (A) (I)

Instructor(s): C. Vogler Terms Offered: Spring

Equivalent Course(s): PHIL 31225, ENGL 12002, PHIL 21225

# ENGL 34422. The Science of Literature. 100 Units.

This course examines the modern history of literature as an object of scientific study. In particular, it introduces key moments in the conversation between quantitative methods and literary interpretation from the late-19th century to today. These include physiological theories of the novel; stylistics; book history; sociologies of reading; distant reading; and cultural analytics. At each moment we consider the intellectual contexts that encouraged dialogue between the sciences and literature; probe the theories and models by which this dialogue was framed; and consider its relevance to the practice of literature; prices the today.

Instructor(s): H. Long Terms Offered: Spring

Equivalent Course(s): ENGL 24422, EALC 24411, EALC 34411

#### ENGL 34526. Forms of Autobiography in the Twentieth and Twenty-First Centuries. 100 Units.

This course examines the innovative, creative forms autobiography has taken in the last one hundred years in literature. We will study closely works written between 1933 and 2013 that are exceptional for the way they challenge, subvert and invigorate the autobiographical genre. From unpublished sketches to magazine essays and full-length books, we will see autobiography take many forms and engage with multiple genres and media. These include biography, memoir, fiction, literary criticism, travel literature, the graphic novel and photography. Producing various mutations of the autobiographical genre, these works address some of the same concerns: the self, truth, memory, authenticity, agency and testimony. We will complement discussions of these universal issues with material and historical considerations, examining how the works first appeared and were received. Autobiography will prove a privileged site for probing constructions of family narratives, identity politics and public personas. The main authors studied are Paul Auster, James Baldwin, Roland Barthes, Alison Bechdel, Doris Lessing, Vladimir Nabokov, W.G. Sebald, Gertrude Stein, and Virginia Woolf. Instructor(s): Christine Fournaies Terms Offered: Spring

Equivalent Course(s): ENGL 24526

# ENGL 34540. Islands and Otherness. 100 Units.

The island as a space of possibility - of discovery, of (re)imagination, and of otherness - is a concept with a very long history in Anglophone literature. Indeed, Britain's own archipelagic geography (a landscape unique among Europe's imperial powers) has often been invoked for a range of rhetorical ends. John of Gaunt's famous speech in Richard II uses the idea of Britain as the "scepter'd isle" as both a source of comfort (England as especially favored) and the foundation of critique (favor squandered). With the rise of transoceanic empires, writers throughout Great Britain, its colonial dominions, and other literary traditions imbued the symbol of the island with ever-increasing layers of meaning. Yet the island was also always already a location of anxiety, hostility, and liminality - of alternate cultural practices and systems of belief, of indigenous peoples who refused the claims of the colonizer, and where the meaning of Europe itself was destabilized in the colonial encounter. While eighteenth- and nineteenth-century European writers often deployed the island to think through the implications of empire for the metropole, anticolonial writers turned to the island as a site of resistance and recuperation. This transhistorical course will discuss the many significations of the island in metropolitan, colonial, and postcolonial literature as a lens into the conflicts and debates of imperialism.

Instructor(s): Tristan Schweiger Terms Offered: Spring

Note(s): Open to MAPH students and 3rd and 4th years in the College Equivalent Course(s): MAPH 34540, ENGL 24540

# ENGL 34554. Mysticism and Modernity. 100 Units.

This course will explore the impact of medieval and early modern mysticism on modern theories of sex, gender, and sexuality. We will begin by examining some of the most highly-cited texts from the Christian mystical tradition and by paying particular attention to the significance of gender, eroticism, and embodiment in these texts. We will then explore the circulation of these texts in modern theoretical projects on sex, gender, and sexuality with particular emphasis on existentialism, psychoanalysis, and deconstruction. Why does Lacan cite Hadewijch in order to articulate his notion of feminine jouissance? Why does Beauvoir hold up Teresa of Ávila as an exemplar of existential authenticity? Why does Derrida follow Pseudo-Dionysius but not Hadewijch in his meditation on negative theology? And how might these intellectual genealogies give rise to contemporary work in queer, feminist, and queer of color critique? Ultimately, by putting premodern and modern texts into dialogue, this course will enable students not only to develop the skill of diachronic analysis but also to challenge the assumption that mysticism and theory are at all apolitical. Instructor(s): Kris Trujillo Terms Offered: Spring

Equivalent Course(s): CMLT 34554, GNSE 24554, CMLT 24554, GNSE 34554, RLST 24554, ENGL 24554

# ENGL 34800. Poetics. 100 Units.

In this course, we will study poetry 'in the abstract'. We will study various efforts on the part of philosophers, literary critics, and poets themselves to formulate theories of poetic discourse. We will examine a range of historical attempts to conceptualize poetry as a particular kind of language practice, from German Romanticism to ecopoetics and beyond. (18th/19th, 20th/21st)

Instructor(s): John Wilkinson Terms Offered: Autumn Equivalent Course(s): MAPH 34800

## ENGL 34850. T.S. Eliot. 100 Units.

With the major new edition of Eliot's poems by Jim McCue and Christopher Ricks, the new volumes of Eliot's letters, and two separate new editions of Eliot's complete prose, we are in a position to rethink the meanings and force of Eliot's life work. The class will be devoted to careful reading of his poems, essays, plays, and correspondence, with attention to his literary, cultural, and political contexts.

Instructor(s): Rosanna Warren Terms Offered: Spring. Course will be taught spring 2021 Equivalent Course(s): FNDL 26614, ENGL 26614, SCTH 36014

## ENGL 34960. California Fictions: Literature and Cinema 1945-2018. 100 Units.

This course uses the cases of the Los Angeles and San Francisco areas to track the entanglement of literature and critical space studies. We will engage with critical geography studies, considerations of everyday life, and cultural studies of urbanism to interrogate the relationship of literature and cinema to the politics of space. Students will learn to read contemporary literature through the political construction of the lived world, and to think with current scholarship on race, space, gender, sexuality, and ordinary life. Includes fiction by Chester Himes, Michelle Tea, and Oscar Zeta Acosta, and theoretical and critical works by Karen Tongson, Sara Ahmed, Michel de Certeau, and Nigel Thrift. Instructor(s): Megan Tusler Terms Offered: Winter

Note(s): Open to MAPH students: 3rd and 4th years in the College email 2-3 sentences about why you want to take the course for consent.

Equivalent Course(s): MAPH 34960, ENGL 24960

# ENGL 35008. Changing Worlds: J.G. Ballard's Apocalyptic Quartet. 100 Units.

Between 1961 and 1966, the English novelist and short story writer J.G. Ballard produced four novels (THE WIND FROM NOWHERE, THE DROWNED WORLD, THE BURNING WORLD, and THE CRYSTAL WORLD) that depict, poetically and concretely, global changes to the earth and its human inhabitants, n particular their imaginations. The relation of these lyrical apocalypses to science fiction, visual art, ecology and the philosophy of time, as well as their awkward coordination into a cycle, will concern us. We will conclude the course by reading Anna Kavan's 1967 ICE, which in a way complements and completes Ballard's cycle.

Instructor(s): Andrei Pop Terms Offered: Autumn, Course to be taught Autumn 2019 Note(s): Open to undergraduates.

Equivalent Course(s): FNDL 25008, SCTH 35008

# ENGL 35417. Utopia and Perfection in Late Medieval England. 100 Units.

A course on the drive to individual and collective perfection, and its relation to social and psychic conflict. Readings from medieval political theory, theology, mystical, hagiographical, and penitential writing, texts documenting the demographic and political upheavals of the 14th century, and poetry of the period. (Med/Ren) Instructor(s): Mark Miller Terms Offered: Autumn

# ENGL 35418. Figura, Persona, Vox: Prosopopoeia in the Middle Ages. 100 Units.

This course considers fictional persons, tropes of anthropomorphism and vivification, and personificational allegory as these operate in the theory and practice of medieval imaginative writing. In addition, it places practices of prosopopoeia within ongoing scholarly conversations about lyric voice, literary character, affect, the ontology of fiction, and the relation of speech to writing. (Med/Ren)

Instructor(s): Julie Orlemanski Terms Offered: Winter Equivalent Course(s): MDVL 35418

# ENGL 35509. Psychoanalytic Theory: Freud and Lacan. 100 Units.

For this course, we will read major texts by Freud and Lacan. Freud readings will include "Beyond the Pleasure Principle," "Note on a Mystic Writing Pad," "The Uncanny," "Jensen's Gradiva," the Dora case, and a selection of texts from other works. Lacan readings: "Seminar on the Purloined Letter," Poe's "The Purloined Letter," "God and the Jouissance of the Woman: A love letter," and parts of the Ecrits. We will also read excerpts from a variety of texts that use the writings of Freud and Lacan for theoretical purposes: Derida, Sarah Kristeva, Irigaray, Zizek, and others. Instructor(s): Françoise Meltzer Terms Offered: Winter

Equivalent Course(s): FREN 25551, ENGL 25509, CMLT 25551, FREN 35551, CMLT 35551

# ENGL 35550. Feminist and Queer Literary Criticism. 100 Units.

An introduction to classic texts in feminist and queer literary criticism. We will also be reading works by Frank O'Hara, Tennessee Williams, Octavia Butler, Ernest Hemingway, Allen Ginsberg, Gwendolyn Brooks, Adrienne Rich, Sylvia Plath, Harryette Mullen, and Maggie Nelson. (20th/21st) Instructor(s): Sianne Ngai Terms Offered: Spring Equivalent Course(s): GNSE 35550

# ENGL 35605. Imagining the City. 100 Units.

The rise of the modern city makes possible new modes of experience, new kinds of people and personality, and new kinds of stories. Texts include Gaskell, North and South; Dickens, Hard Times; Stevenson, Dr. Jekyll and Mr. Hyde; Conan Doyle, The Adventures of Sherlock Holmes; Wilde, The Portrait of Dorian Gray; Woolf, Mrs Dalloway. Instructor(s): Lawrence Rothfield Terms Offered: Autumn

# ENGL 35902. Virgil, The Aeneid. 100 Units.

A close literary analysis of one of the most celebrated works of European literature. While the text, in its many dimensions, will offer more than adequate material for classroom analysis and discussion, attention will also be directed to the extraordinary reception of this epic, from Virgil's times to ours.

Instructor(s): G. Most Terms Offered: Winter 2013

Prerequisite(s): Latin helpful

Equivalent Course(s): CMLT 35902, SCTH 35902, CLAS 44512

# ENGL 36012. 19th Century French Poetry in Translation: Tradition and Revolution. 100 Units.

A study of modern French lyric poetry: Tradition and Revolution, Poetry and Politics, the seedbed of Modernism. Desbordes-Valmore, Baudelaire, Mallarme, Verlaine, Rimbaud, Apollinaire. Texts will be read in English with reference to the French originals. Close reading, references to poetry in English, and focus on problems in translation. Students with French should read the poems in the original. Class discussion to be conducted in English; critical essays to be written in English. An extra weekly session will be scheduled for discussion in French, for French-speakers.

Instructor(s): Rosanna Warren Terms Offered: Autumn. Course to be taught autumn 2019

Prerequisite(s): For advanced undergrads seeking French credit: French 20500 or 20503 and at least one literature course taught in French.

Note(s): For graduate students and advanced undergraduates.

Equivalent Course(s): FREN 36019, FREN 26019, SCTH 26012, CMLT 36012, SCTH 36012

# ENGL 36013. Contemporary Poems in English. 100 Units.

TBD

Equivalent Course(s): SCTH 36013

## ENGL 36017. Women and the Enlightenment. 100 Units.

This course will study women's relation to the Enlightenment as both subjects and objects of enquiry. We will examine how male and female writers of this period imagined sexual difference and the category of "woman"; came to understand women as consumers and creators of culture, as well as agents of sociability and of historical change; developed key notions of consent and self-possession, as well as of the public and private spheres. Readings may include selections from John Locke, Bernard Mandeville, David Hume, Jean-Jacques Rousseau, and Adam Smith, and works by Mary Astell, Mary Wortley Montagu, Charlotte Lennox, Sarah Scott, Frances Burney, Anna Letitia Barbauld, Mary Wollstonecraft, Mary Hays, Maria Edgeworth.

Instructor(s): Heather Keenleyside Terms Offered: Winter Equivalent Course(s): GNSE 36017

## ENGL 36222. Elizabeth Bishop and Robert Lowell. 100 Units.

An intensive study of these two poets, whose work differs radically, but whose friendship nourished some of the most enduring and original poetry of the American 20th century. Close attention to the poems, in the light of recent biographical work and new editions.

Equivalent Course(s): SCTH 36002

# ENGL 36233. Kincaid and Naipaul. 100 Units.

This course focuses on the works of Jamaica Kincaid, V.S. Naipaul (whom cultural critic Shalini Puri once called a "postcolonial skeptic"), and their interlocutors. We will read fiction and non-fiction alike to investigate history, debt, and violence and the act of writing about the postcolony from the Global North. (20th/21st) Instructor(s): Kaneesha Parsard Terms Offered: Winter

Equivalent Course(s): LACS 36233, GNSE 36233

# ENGL 36251. Richer and Poorer: Income Inequality. 100 Units.

Current political and recent academic debate have centered on income or wealth inequality. Data suggests a rapidly growing divergence between those earners at the bottom and those at the top. This course seeks to place that current concern in conversation with a range of moments in nineteenth and twentieth century history when literature and economics converged on questions of economic inequality. In keeping with recent political economic scholarship by Thomas Piketty, we will be adopting a long historic view and a somewhat wide geographic scale as we explore how economic inequality is represented, measured, assessed and addressed. (18th/19th, 20th/21st) Instructor(s): Elaine Hadley Terms Offered: Winter

Instructor(s): Elaine Hadley Terms Offered: Winter

# ENGL 36312. Global Speculative Fiction. 100 Units.

This course examines literary and cinematic works of speculative fiction in a comparative context. An expansive genre that encompasses science fiction, fantasy, magic realism, horror, as well as utopian and dystopian literature, speculative fiction envisions alternate, parallel, possible, or imagined worlds. These worlds often exhibit characteristics such as: scientific and technological advancements; profound social, environmental, or political transformations; time or space travel; life on other planets; artificial intelligence; and evolved, hybrid, or new species. The course reflects on how these texts and films reimagine the past and the present in order to offer radical visions of desirable or undesirable futures. To that end, we will consider how this genre interrogates existential questions about what it means to be human, the nature of consciousness, the relationship between mind/body, thinking/being, and self/other, as well as planetary concerns confronting our species. Literary and cinematic works will be paired with theoretical readings that critically frame speculative and science fiction in relation to exploring speculative fiction as a way of reading and interpreting the universe, we will examine its generic and aesthetic qualities across a variety of subgenres (Afrofuturism, cyberpunk, steampunk, climate fiction). Instructor(s): Hoda El Shakry Terms Offered: Winter

Equivalent Course(s): CMLT 36311, CMLT 26311, ENGL 26312

## ENGL 36407. Comedy Central 2: The Body's Genres. 100 Units.

The story of comedy from the classics on focuses on the comedic as a weapon, as play that disrupts communication, and as a scene of moral revelation. This course will take up those relations, but begins with the body. We will focus on the plastic, corporeal, affective, and psychodramatic dynamics of the comedic. So much so, in fact, that we're calling it a studio seminar: it will involve actively participating in exercises adapted from the somatic arts, contemporary dance, music, theatre and contemporary comedy and developing new ones. Recognizing that bodies are as much created by movement as engendering it, and recognizing that the comedic is a register for translating the impact of other bodies including the world's body, the course will participative, ritual/convention, spontaneity/improvisation; cognitive laughter/belly laughter. Readings will include texts by Linda Williams, Erving Goffman, J.L. Moreno, Elias Canetti, Moshe Feldenkrais, Steve Paxton, Mikhail Bakhtin, Mae West, Jerry Lewis and Fred Moten. Students will contribute their own choices to an exploration of individual performances by Buster Keaton, Louise Lasser, Eleo Pomare, Phyllis Diller, Jackie "Moms" Mabley, and Jerrod Carmichael. Instructor(s): L. Berlant, C. Sullivan Terms Offered: Autumn

Equivalent Course(s): ARTV 36215, TAPS 36215

## ENGL 36661. The Rise of the Global New Right. 100 Units.

This course traces the intellectual genealogies of the rise of a Global New Right in relation to the contexts of late capitalist neoliberalism, the fall of the Soviet Union, as well as the rise of social media. The course will explore the intertwining political and intellectual histories of the Russian Eurasianist movement, Hungarian Jobbik, the American Traditional Workers Party, the French GRECE, Greek Golden Dawn, and others through their published essays, blogs, vlogs and social media. Perhaps most importantly, the course asks: can we use f-word (fascism) to describe this problem? In order to pose this question we will explore the aesthetic concerns of the New Right in relation to postmodern theory, and the affective politics of nationalism. This course thus frames the rise of a global new right interdisciplinary and comparatively as a historical, geopolitical and aesthetic problem.

Instructor(s): Leah Feldman Terms Offered: Autumn

Equivalent Course(s): REES 26660, REES 36661, CMLT 26660, CRES 26660, ENGL 26660, CMLT 36660, SIGN 26050, CRES 36660

# ENGL 36710. Eccentric Moderns. 100 Units.

An examination of six idiosyncratic poets who invented new forms of language on the peripheries of High Modernism: David Jones, Laura Riding, Hart Crane, W.H. Auden, Geoffrey Hill, and Anne Carson. Close formal analysis of the poems in the wider social and political contexts of the 20th and early 21st centuries.

Instructor(s): Rosanna Warren Terms Offered: Autumn. course is offered Autumn 2018

Prerequisite(s): Open to advanced undergraduates

Equivalent Course(s): SCTH 36710

# ENGL 36810. Intellectuals and Power. 100 Units.

Intellectuals may be defined as those who speak truth to power, but how they speak, with what conception of truth, and in relation to what kind of power? In this course, we will try to begin to answer these questions by looking at the works and lives of some exemplary intellectuals, including Machiavelli, Carlyle, Benda, Nietzsche, Sartre, Ellison, Foucault, Sontag, and Said.

Instructor(s): Larry Rothfield Terms Offered: Winter Equivalent Course(s): CMLT 36810, CMLT 26810

## ENGL 36855. Queer Theory. 100 Units.

This course aims to offer a foundation in queer theoretical texts. In order to understand the contested definitions of the term "queer" and explore the contours of the field's major debates, we will work to historicize queer theory's emergence in the 1980s and 1990s amidst the AIDS crisis. Reading texts by key figures like Foucault, Sedgwick, Butler, Lorde, Bersani, Crimp, Warner, Halperin, Dinshaw, Edelman, Anzaldúa, Ferguson, and Muñoz in addition to prominent issues of journals like GLQ, differences, and Signs, we will approach these pieces as historical artifacts and place these theorists within the communities of intellectuals, activists, and artists out of which their work emerged. We will, thus, imagine queer theory as a literary practice of mournful and militant devotion, trace queer theory's relationship to feminism and critical race theory, critique the hagiographic tendency of the academic star system, and interrogate the assumptions of queer theory's secularity. Instructor(s): Kris Trujillo Terms Offered: Winter

Equivalent Course(s): CMLT 36855, ENGL 26855, GNSE 26855, RLST 26885, GNSE 36855, CMLT 26855

# ENGL 36856. Queer Theory: Futures. 100 Units.

TBD

Instructor(s): Kris Trujillo Terms Offered: Winter

Equivalent Course(s): GNSE 36856, CMLT 36856, RLVC 36856, GNSE 26856, ENGL 26856, CRES 26856, RLST 26856, CMLT 26856

# ENGL 37451. Stateless Imaginations: Global Anarchist Literature. 100 Units.

Stateless Imaginations: World Anarchist Writing This course examines the literature, aesthetics, and theory of global anarchist movements, from nineteenth-century Russian anarcho-syndicalism to Kurdish stateless democratic movements of today. We will also study the literature of "proto-anarchist" writers, such as William Blake, and stateless movements with anarchist resonances, such as Maroon communities in the Caribbean. Theorists and historians will include Dilar Dirik, Nina Gurianova, Paul Avrich, Luisa Capetillo, Emma Goldman, Maia Ramnath, and Thomas Nail. Particular attention will be given to decolonial thought, religious anarchism, fugitivity and migration, and gender and race in anarchist literature. Instructor(s): Anna Elean Torres Terms Offered: Spring

Equivalent Course(s): CMLT 27450, ENGL 27451, CMLT 37450

# ENGL 37803. The Body of Cinema: Hypnoses, Emotions, Animalities. 100 Units.

TBD

Equivalent Course(s): CMST 27803, CMST 47803

## ENGL 37815. Appropriations and Impostures. 100 Units.

What are the different aesthetic and literary uses of appropriation? The editor of a Canadian magazine who set up the Appropriation Prize in 2017, defended the practice of cultural appropriation by insisting that "anyone, anywhere, should be encouraged to imagine other peoples, other cultures, other identities." This case underscores the continuing tension between narrative as a vehicle for imagining and empathizing with distant others, and notions of cultural property. In this course, we look at a selection of literary works that speak to these themes including Diderot, Ern Malley, Patricia Highsmith, Peter Carey, Kenneth Goldsmith, and Sherman Alexie, with particular attention to the work of appropriation in postcolonial contexts. We also touch on appropriation in other media, such as for instance, Richard Prince's "New Portraits," Sherrie Levine's "After Walker Evans", and Ni Haifeng's installations.

Instructor(s): Darrell Chia Terms Offered: Spring

Note(s): Open to MAPH students and 3rd and 4th years in the College Equivalent Course(s): MAPH 37815, ENGL 27815

# ENGL 38404. Introduction to Old English. 100 Units.

Moõõe word fræt." These are the first words of a riddle that students will learn how to read in this course. As the first part of the Medieval Research Series, this course introduces students to the Old English language, the literary history of early medieval England, and current research tools and scholarship in the field of Old English. In studying the language, we will explore its diverse and exciting body of literature, including poems of heroic violence and lament, laws, medical recipes, and humorously obscene riddles. Successful completion of the course will give students a rich sense not only of the earliest period of English literary culture, but also of the structure of the English language as it is written and spoken today. (Pre-1650; Med/Ren) This course is the first in a two quarter Medieval Research sequence. No prior experience with Old or Middle English is required. The second course in the Medieval Research sequence (Beowulf) will be offered in the Spring Quarter.

Instructor(s): Benjamin Saltzman Terms Offered: Autumn

Equivalent Course(s): ENGL 28404, MDVL 28404

# ENGL 38405. Old English Riddles (Med. Research Sequence II) 100 Units.

In this course, we will read and translate all of the Exeter Book Riddles from Old English, attending closely to issues of language, paleography, textual cruxes, and-of course-interpretation. In an effort to understand these riddles within a broader early medieval tradition of enigmatic poetry, we will also read several Old English charms as well as Anglo-Latin riddles in translation. Emphasis will also be placed on the history of scholarship on early medieval riddles, and over the course of the term, each student will produce a piece original scholarly research that engages with a riddle or set of riddles and the critical tradition. (Pre-1650, Poetry); (Med/Ren).

Instructor(s): Benjamin Saltzman Terms Offered: Winter

Prerequisite(s): This course is the second in a two-quarter Medieval Research Sequence and prior knowledge of Old English will be required.

Equivalent Course(s): ENGL 28405, MDVL 28405

# ENGL 38500. Mythologies of America: 19th Century Novels. 100 Units.

Hawthorne, Melville, Stowe, Alcott, and Twain wrote fiction that, in individual novels and also read comparatively, offers a civic template of mythologies of America: its genesis, its composition, its deities, its ritual life. The course considers this writing as both distinctively American, and as engaging central themes of modern novels, e.g. time, history, and memory, the relation of private to civic life, and the shifting role of religious authority.

Instructor(s): Richard Rosengarten Terms Offered: Spring

Equivalent Course(s): RLST 28510, RAME 38500, RLVC 38500, ENGL 28510

## ENGL 38660. How Literature Thinks: Contemporary Writers on Big Problems. 100 Units.

Big Problems" have affective dimensions that not only complicate our thinking about issues like climate change or income inequality but pose "big problems" of their own: apathy, depression, boredom, paranoia. Literature invites us to reflect on these affective states and their social repercussions while also expanding the forms of feeling and knowing available to us. How do novels, poems, and memoirs explore the connections between emotion, understanding, and individual and collective action? Can criticism help us to see those connections? In this course, we will read the work of contemporary writers who explore a variety of pressing questions. Authors will include celebrated novelists and poets visiting the University, University of Chicago faculty in Creative Writing, and award-winning local authors. These writers will visit our class to share their views on how literature "thinks" in generative ways. Readings of contemporary novels, poetry, and nonfiction will be supplemented by theoretical texts that illuminate the affective, epistemological, and political dimensions of artistic responses to social crises. Assignments will include both creative and critical writing exercises, attendance at literary events, and a final (creative, critical, or creative/critical hybrid) project. No prior creative writing experience is required. Instructor(s): S. Reddy, S. Ngai Terms Offered: Spring

Prerequisite(s): PQ: Third- or fourth-year standing

Equivalent Course(s): BPRO 26800, ENGL 28660

#### ENGL 38710. On Fear and Loathing: Negative Affect and the American Novel. 100 Units. Equivalent Course(s): MAPH 40120, ENGL 28710

## ENGL 38775. Racial Melancholia. 100 Units.

This course provides students with an opportunity to think race both within a psychoanalytic framework and alongside rituals of loss, grief, and mourning. In particular, we will interrogate how psychoanalytic formulations of mourning and melancholia have shaped theories of racial melancholia that emerged at the turn of the twenty-first century. Turning to Asian American, African American, and Latinx theoretical and literary archives, we will interrogate the intersections of race, gender, and sexuality and ask: How do literatures of loss enable us to understand the relationship between histories of racial trauma, injury, and grief, on the one hand, and the formation of racial identity, on the other? What might it mean to imagine literary histories of race as grounded fundamentally in the experience of loss? What forms of reparations, redress, and resistance are called for by such literatures of racial grief, mourning, and melancholia? And, finally, how, if understood as themselves rituals of grief, might psychoanalysis and the writing of literature assume the role of religious devotion in the face of loss and trauma?

Instructor(s): Kris Trujillo Terms Offered: Autumn

Equivalent Course(s): GNSE 28775, ENGL 28775, CMLT 38775, CRES 22775, CMLT 28775, RLVC 38775, GNSE 38775, RLST 28775

#### ENGL 38860. Black Shakespeare. 100 Units.

This course explores the role played by the Shakespearean canon in the shaping of Western ideas about blackness, in processes of racial formation, and racial struggle from the early modern period to the present. Students will read Shakespearean plays portraying black characters (Othello, Titus Andronicus, The Tempest, Antony and Cleopatra) in conversation with African-American and post-colonial rewritings of those plays (by Toni Morrison, Amiri Baraka, Keith Hamilton Cobb, and Aimé Césaire, among others). (Drama, Pre-1650 ; Med/Ren)

Instructor(s): Noémie Ndiaye Terms Offered: Spring

Equivalent Course(s): ENGL 18860, CRES 18860, TAPS 20040, TAPS 30040

#### ENGL 39120. Renaissance Christian Epic: Tasso, Vida, Milton. 100 Units.

This course will focus upon the two most important Renaissance Christian epics, Torquato Tasso's La Gerusalemme liberata/ Jerusalem Delivered (first pub. 1581) and John Milton's Paradise Lost (first pub. 1667), and two brief Biblical epics, Marco Girolamo Vida's Christiad (1535) and Milton's Paradise Regained (1671). We will examine these four Renaissance epics as ambitious efforts to revive an ancient and pagan form in order to depict Christian and self-consciously modern visions. We will consider how Renaissance epic poets imitate and emulate both their classical models (primarily Homer's Iliad and Odyssey, Virgil's Aeneid, and Ovid's Metamorphoses) and Judeo-Christian sources (primarily the Bible); seek to forge an elevated and appropriate language for epic in Latin, Italian, and English; espouse new visions of the human, the heroic, and gender relations; and adumbrate distinctively modern national, imperial, and global ambitions. All non-English texts will be read in translation, but students who can read Latin or Italian will be encouraged to read the originals. Instrumetre's Lochwa Core of Serier

Instructor(s): Joshua Scodel Terms Offered: Spring

Note(s): This course fulfills the Poetry and 1650-1830 distribution requirements for English majors. Equivalent Course(s): ENGL 29120, CMLT 39120, CMLT 29120

## ENGL 39203. Bad Readers. 100 Units.

By the end of the eighteenth century more women and working class readers existed than ever before, and as the ranks of readers grew, so did cultural fears about the dangerous effects of popular, untrained, promiscuous, escapist, or otherwise bad, reading. This course will investigate the democratization of the "reading public," the debates about the dangers of reading that it provoked, and the ways that these arguments inflect, underlie, or diverge from contemporary anxieties about what constitutes bad reading, from Eve Sedgwick's critique of paranoid reading to the now daily warnings about fake news. (18th/19th)

Instructor(s): Alexis Chema Terms Offered: Winter Equivalent Course(s): GNSE 39203

#### ENGL 39413. Language is Migrant: Yiddish Poetics of the Border. 100 Units.

This course examines Ashkenazi Jewish literary narratives about geopolitical borders and border-crossing though travel and migration, engaged with questions about the linguistic borders of Yiddish itself. As a diasporic language, Yiddish has long been constructed as subversively internationalist or cosmopolitan, raising questions about the relationships between language and nation, vernacularity and statelessness. This course explores the questions: How do the diasporic elements of the language produce literary possibilities? How do the "borders" of Yiddish hape its poetics? How do Yiddish poets and novelists thematize their historical experiences of immigration and deportation? And how has Yiddish literature informed the development of other world literatures through contact and translation? Literary and primary texts will include the work of Anna Margolin, Alexander Harkavy, Peretz Markish, Dovid Bergelson, Yankev Glatshteyn, Yosef Luden, S. An-sky, and others. Theoretical texts will include writing by Wendy Brown, Dilar Dirik, Gloria Anzaldúa, Wendy Trevino, Agamben, Arendt, Weinreich, and others. The course will incorporate Yiddish journalism and essays, in addition to poetry and prose. All material will be in English translation, and there are no prerequisites.

Instructor(s): Anna Elena Torres Terms Offered: Spring

Equivalent Course(s): ENGL 29413, CMLT 29402, JWSC 29402, CMLT 39402

# ENGL 39416. Freud. 100 Units.

This course will involve reading Freud's major texts, including, e.g., parts of The Interpretation of Dreams, "Beyond the Pleasure Principle," and his later work on feminine sexuality. We will consider Freud's views on bisexuality as well. We will also read case studies and consider theoretical responses to Freud's work, by Derrida, Lacan, and other important theorists. Course requirements will be one in-class presentation, based on the reading(s) for that day, and one final paper. Instructor(s): Françoise Meltzer Terms Offered: Autumn

Equivalent Course(s): CMLT 39416, ENGL 29416, CMLT 29416, DVPR 39416, RLST 29416

#### ENGL 40110. Literature and Citizenship. 100 Units.

What we think of as modernity can be said to begin with the birth (or rebirth) of the citizen. During the 17thand 18th centuries, revolutions in Britain, France, and North America sought to recast political society as a structure built upon social contracts and natural rights of the people rather than the divine right of kings. Yet the category of citizen was (and remains) exclusionary as well as inclusive, frequently deployed to mark those outside its boundaries and protections. During the 19th and 20th centuries, the constructions of race, gender, and nation continued to shift into new forms, and many literature of these centuries focus on how "the citizen" is conceived and reinvented into the present. This interdisciplinary, transhistorical, and transatlantic course will discuss how these tensions and debates influence literature and political discourse over four centuries, a breadth that will allow us to trace the concepts and critiques of citizenship as they have come to shape our contemporary world. Primary readings will include William Shakespeare, Tobias Smollett, Olaudah Equiano, Anna Laetitia Barbauld, Herman Melville, Frederick Douglass, Richard Wright, Miné Okubo, and Claudia Rankine. Secondary and theoretical readings will include Michel Foucault, Raymond Williams, Benedict Anderson, Ian Baucom, Lord Mansfield, C. L. R. James, Paul Gilroy, John Locke, Thomas Jefferson, Achille Mbembe, Emma Goldman, and Harry Harootunian.

Equivalent Course(s): ENGL 24119, MAPH 40110

#### ENGL 40140. Lyric Intimacies in the Renaissance. 100 Units.

This course will examine how writers in the Atlantic and Mediterranean world used lyric verse as a tool for establishing, imagining or faking intimacy-with potential lovers, employers, friends, and God. Poetry has often been perceived as a peculiarly intimate medium, tasked with providing access to a person's inner experience: we'll examine how Renaissance poets created the experience of lyric nearness and track the social functions the poetry of intimacy served. The course will feature British authors such as William Shakespeare, John Donne and Katherine Philips in conversation with Petrarch's transformational sonnets, verse in the Islamic poetic tradition by Hafez and 'A'ishah al-Ba'uniyyah, and the work of writers in the Americas such as Sor Juana Inez de la Cruz and Anne Bradstreet. Along the way, we will explore some of the following questions: what was the gender politics of Renaissance lyric? How did writers make space for queer or heteronormative writing and attachment within the conventions of the love poem? What looks familiar about the forms of intimacy we find in these texts? What remains profoundly strange about them?

Instructor(s): Sarah Kunjummen Terms Offered: Winter

Equivalent Course(s): MAPH 40140, GNSE 44440, ENGL 22140, GNSE 24440

# ENGL 40202. Postcolonial Bildungsroman. 100 Units.

In this course, we consider the novel of subject formation in the twentieth-century, with a particular emphasis on postcolonial adaptations of this form. We examine how different instances of the genre play across tropes of aesthetic education, self-making, and nation-building. Readings will likely include Conrad's Lord Jim, E.M. Forster's A Passage to India, Olive Schreiner's Story of an African Farm, and Tsitsi Dangarembga's Nervous Conditions, as well as key critical pieces by Mikhail Bakhtin, Marc Redfield, and Jed Esty, among others.

Instructor(s): Darrel Chia Terms Offered: Spring

Equivalent Course(s): MAPH 40202, ENGL 21212

# ENGL 40203. Biopolitics & Posthumanism. 100 Units.

Much has been written about the possibility (or impossibility) of creating an integrated political schema that incorporates living status, not species boundary, as the salient distinction between person and thing. In this course, we will explore how biopolitical and posthumanistic scholars like Michel Foucault, Hannah Arendt, Giorgio Agamben, Jane Bennett, Cary Wolfe, and Donna Haraway have acknowledged (and advocated transcending) the anthropocentric ümwelt, to borrow Jakob von Üexküll's influential term. In parallel with our theoretical readings, we will explore how actual legal systems have incorporated the nonhuman, with a particular focus on Anglo-American and transnational law. Our goal is to develop our own sense of an applied biopolitics-whether to our own research, to future legislation and jurisprudence, or both. Instructor(s): Nicolette I. Bruner Terms Offered: Winter

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. No instructor consent is required, but registration is not final until after the 1st week in order to give Ph.D. students priority.

Equivalent Course(s): KNOW 40203, CHSS 40203, CMLT 40203

# ENGL 40305. The Archive of Early English Literature: Manuscripts, Books, and Canon. 100 Units.

This course will introduce students to early English literature through manuscript studies and book history. Throughout the course we will reflect on archival research as a critical practice: how do the material histories of early texts invite us to rethink the fundamental categories that organize literary history, like authorship or canonicity? The course will be both a practicum (teaching the basics of paleography, codicology, and textual editing) and an ongoing conversation about the archives of literary history, as sites of interpretation, memory, and erasure. We will meet in the Special Collections Research Center, and use the collections of the University of Chicago. We will first focus on the archives of Chicago's Chaucer Research Project and its principals, John Matthews Manly and Edith Rickert, who tried to establish an authoritative text of the Canterbury Tales in the early twentieth century. The second half of the course will focus on print culture and reading practice, with a focus on Chicago's collection of early modern commonplace books. Students will propose and pursue a research project in the U of C or Newberry Library collections, on a topic of their choosing. Students will produce a piece of scholarship that reflects both careful research in those collections and thoughtfulness about the place of that research in critical practice.

# Instructor(s): J. Stadolnik Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. No instructor consent is required, but registration is not final until after the 1st week in order to give Ph.D. students priority.

Equivalent Course(s): KNOW 40305, CHSS 40305

# ENGL 40309. Miracles, Marvels, and Mystics: Unknowing in Medieval England. 100 Units.

In this seminar we will explore how premodern literary texts imagined experiences of 'unknowing': narrating scenes of astonishment, misapprehension, and disbelief. Our primary readings will draw on a rich tradition of vernacular writing in medieval England. We will read across that tradition's genres, as writers experimented with ways to represent the wondrous, the occluded, the incomprehensible, and the horrific in a variety of forms, among them spectacular miracle plays, prose exercises in mystical negation, and the poetry of dreamworlds and alchemical secrecy.

Instructor(s): Joe Stadolnik Terms Offered: Spring

Equivalent Course(s): KNOW 40309

# ENGL 41102. The Victorian Unconscious. 100 Units.

The goal of this course is to analyze the emergence of psychoanalysis within its historical context, and to explore the ways in which psychoanalytic theory functions at once as an artifact of 19th century culture and as an interpretive system that can afford us a particular set of insights into that culture. Readings will include 19th century novels and poetry by Emily Brontë, H. Rider Haggard and Thomas Hardy, among others, as well as anthropological, sexological, sociological and psychiatric texts that represent the backdrop to the development of psychoanalytic theory. (18th/19th, 20th/21st) Instructor(s): Zach Samalin Terms Offered: Spring

Equivalent Course(s): GNSE 44102

# ENGL 41202. The Brontes and the 'Psychological Novel' 100 Units.

This course takes the novels of Emily and Charlotte Bronte as a case study for novel theory and criticism. In particular we will consider what it has meant to claim that the Brontes' novels have a special relationship to or claim on the psychological. What is at stake in the critical interest in subjectivity, interiority and depth in these novels? What might it mean to read these (or any) novels without or against a privileging of the psychological? We will look at significant critical movements in Victorian novel studies (ideology critique; gender theory; historicism; etc.) that have taken the Brontes' novels as their objects while we read Wuthering Heights, Jane Eyre, Shirley, Villette and other nineteenth century texts. Instructor(s): Strang, Hilary

Note(s): Current MAPH students and 3rd and 4th years in the College. All others by instructor consent only. Equivalent Course(s): GNSE 41200, MAPH 41200, GNSE 21210, ENGL 21202

# ENGL 41219. Interpretation: Theory and Practice. 100 Units.

his seminar will be conducted on two tracks. On the one hand, we will study major contributions to hermeneutic theory (including positions that understand themselves as anti-hermeneutic). Contributions to be considered include works by Friedrich Schleiermacher, Wilhelm Dilthey, Martin Heidegger, Hans-Georg Gadamer, Paul Ricoeur, E.D. Hirsch, Manfred Frank, Roland Barthes, Stanley Cavell, and Jacques Derrida. At the same time, the seminar will include a practical component in which we will collectively develop interpretations of works by Heinrich von Kleist, Johann Peter Hebel, Franz Kafka, Friedrich Nietzsche, Charles Baudelaire, Guillaume Apollinaire, Emily Dickinson, and Herman Melville. English translations of the assigned readings will be provided. (This course is restricted to students in Ph.D. programs.) Instructor(s): David Wellbery Terms Offered: Autumn

Equivalent Course(s): CMLT 41219, FREN 41219, GRMN 41219, SCTH 41219

## ENGL 41310. Our biopolitics, ourselves: feminist science fiction. 100 Units.

1970s feminist theory made a significant conceptual move in provisionally bracketing off biological sex from the historical/ cultural work of gender. Feminist science fiction (in contrast), in its brief flourishing in the 70s and early 80s, finds its utopian moments in the biological, in genetic manipulation, reproductive technology, ecological forms of being and new bodies of a variety of kinds. This class will read science fiction, feminist theory and current critical work that concerns itself with biopolitics in order to ask questions about the divide between nature and culture, what's entailed in imagining the future, what gender and genre might have to do with each other, and just what science fiction is and does anyway. Authors include: Le Guin, Russ, Butler, Piercy, Haraway, Rubin, Firestone,

Instructor(s): Hilary Strang Terms Offered: Winter

Equivalent Course(s): ENGL 21310, MAPH 41300, GNSE 41300, GNSE 21310

# ENGL 41360. Gender, Capital, and Desire: Jane Austen and Critical Interpretation. 100 Units.

Today, Jane Austen is one of the most famous (perhaps the most famous), most widely read, and most beloved of eighteenthand nineteenth-century British novelists. In the two hundred years since her authorial career, her novels have spawned countless imitations, homages, parodies, films, and miniseries - not to mention a thriving "Janeite" fan culture. For just as long, her novels have been the objects of sustained attention by literary critics, theorists, and historians. This course will offer an in-depth examination of Austen, her literary corpus, and her cultural reception as well as a graduate-level introduction to several important schools of critical and theoretical methodology. We will read all six of Austen's completed novels in addition to criticism spanning feminism, historicism, Marxism, queer studies, postcolonialism, and psychoanalysis. Readings may include Shoshana Felman, Frances Ferguson, William Galperin, Deidre Lynch, D.A. Miller, Edward Said, Eve Sedewick, and Raymond Williams.

Instructor(s): Tristan Schweiger Terms Offered: Autumn

Equivalent Course(s): GNSE 41303, MAPH 40130, GNSE 21303, ENGL 21360

## ENGL 41420. Futures Other Than Ours: Science Fiction and Utopia. 100 Units.

Science fiction is often mistaken for a variety of futurism, extrapolating what lies ahead. This class will consider what kind of relationship science fiction might have to the future other than prediction, anticipation, optimism or pessimism. How might science fiction enable thinking or imaging futures in modes other than those available to liberalism (progress, reproduction, generation) or neoliberalism (speculation, anticipation, investment)? This class asks how science fiction constitutes its horizons, where and how difference emerges in utopias, and what it might be to live in a future that isn't ours. Readings may include SF works by Delany, Le Guin, Russ, Butler, Robinson, Banks, Ryman, Jones; theoretical and critical readings by Bloch, Jameson, Suvin, Munoz, Murphy, and others.

Instructor(s): Hilary Strang Terms Offered: Winter

Note(s): Email the instructor directly for consent.

Equivalent Course(s): ENGL 21420, MAPH 41400

# ENGL 41644. American Muckrakers: The Literature of Exposé, 1900/2000. 100 Units.

This seminar examines the genre of American "muckraking," a form of journalism and fiction intended to expose social and economic injustices. We attend, in particular, to writers active in the years surrounding 1900, when muckraking narratives enjoyed great social influence, and then turn to the new crop of prominent muckrakers that emerged around 2000. In coining the term "muck-rake" in a 1906 speech, President Theodore Roosevelt linked the genre's aesthetic deficiencies to a potentially dangerous political impact: Its tendency towards "hysteric sensationalism" threatened to provoke a "morbid and vicious public sentiment" marked by cynical apathy. Though we may not end up agreeing with Roosevelt, the seminar picks up his emphasis on the relationship between the aesthetics and politics of exposé in our examination of muckraking media. We will discuss the narrative strategies of a genre often designated as "bad" literature, focusing, in particular, on the link between its purported aesthetic deficiencies-populism, sentimentalism, melodrama, sensationalism-and its political mission. Last but certainly not least, this seminar situates muckraking narratives in their historical contexts-what they hoped to expose, why, and what impact they ended up having. Texts in this course may include the work of: Upton Sinclair, Ida Tarbell, Jacob Riis, Ray Stannard Baker, Frank Norris, Lincoln Steffens, Barbara Ehrenreich, Eric Schlosser, Naomi Klein, Michael Moore, and Laurie Garrett.

Instructor(s): Agnes Malinowska Terms Offered: Spring Equivalent Course(s): MAPH 41600, ENGL 21644

## ENGL 42119. Milton's Italian Music. 100 Units.

This seminar examines John Milton's encounter with Roman culture, first and foremost music, around 1640. It is built around the April 2019 performance in Logan Center of this music by the English early music group Atalanta, for which students will prepare notes and preconcert activities. Reading Milton's youthful texts, as well as literature and poesia per musica from Rome, while studying the musical genres and personalities that we know he encountered there, gives insight into this encounter between Puritan and Barbarini sensibilities, seemingly so distant, but mediated via music. In addition to preparing for the concert activities (including interacting with the singers in a workshop), students will write a research paper. Prerequisites: no music reading needed, but experience with 17th-century English or Continental literature will aid in that case.

Instructor(s): Robert L. Kendrick Terms Offered: Winter

Prerequisite(s): Prerequisites: no music reading needed, but experience with 17th-century English or Continental literature will aid in that case.

Equivalent Course(s): ITAL 40119, MUSI 42119

## ENGL 42260. Exploratory Translation. 100 Units.

Translation is one of the central mechanisms of literary creativity across the world. This course will offer opportunities to think through both the theory and practice of this art form and means of cultural transmission, focusing on the problems of translation of and by poets in a variety of languages: it will emphasize precisely the genre most easily "lost in translation," as the truism goes. Topics to be discussed will include semantic and grammatical interference, loss and gain, the production of difference, pidgin, translationese, bilingualism, self-translation, code-switching, translation as metaphor, foreignization vs. nativization, and distinct histories of translation. The workshop will offer students a chance to try their hands at a range of tactics of translation. (20th/21st)

Instructor(s): Jennifer Scappettone Terms Offered: Winter

## ENGL 42411. Marx and His Cultural Context. 100 Units.

This course provides students with an in-depth introduction to the work of Karl Marx, situating it within the nineteenthcentury literary, cultural and political contexts that helped to shape his thought and its subsequent reception by later thinkers and theorists. Readings will include important works in nineteenth-century political theory; proto-sociological studies of the industrial workplace; novels of labor and class struggle; as well as Victorian anthropological studies of culture, religion, fetishism, and the origins of the family. (18th/19th)

Instructor(s): Zachary Samalin Terms Offered: Spring

Prerequisite(s): open to advanced undergraduates and MAPSS students with the consent of the instructor

# ENGL 42412. Perspective as a Challenge to Art History. 100 Units.

Equivalent Course(s): ARTH 32402, ARTH 22402, ENGL 22402, SCTH 32402

# ENGL 42550. Reading Bleak House: Criticism / History. 100 Units.

Charles Dickens's great anti-law novel, Bleak House (1852-3), was formally daring and technically ambitious. Part mystery story, part comment on the age (Dickens called it his "Condition of England" novel), from its first appearance it attracted both enthusiasts and detractors among its vast, worldwide readership. In the late 20th and 21st centuries it has continued to provoke intense responses, generating a body of work that reflects the major trends in criticism and theory of the novel. In this course we will consider the novel in both its 19th-century contexts and in recent criticism. The aim is not only to read Bleak House - one of the great novels of the Victorian period - but to read readers of Bleak House, to think about the different ways the novel has been construed in different contexts, and to how it has shaped ongoing critical debates in, for example, narrative theory, historicism, formalism, and postcolonial literary criticism. (18th/19th) Instructor(s): Josephine McDonagh Terms Offered: Winter

## ENGL 43204. Coll: Capitalism & Climate Change-History, Society, Literature. 100 Units.

The concept of the Anthropocene introduces the idea of the human species as a geological agent, capable of altering the life supporting system of the whole planet through anthropogenic climate change. Paradoxically, the bad news of the Anthropocene is also a moment of intellectual exhilaration for the social sciences and humanities. The Anthropocene forces us to rethink some of the most fundamental concepts in scholarship, such as modernity, growth, justice, and scale in light of new pressing problems of carbon emissions, mitigation, and adaptation. We will approach these questions from a variety of perspectives, including ethics, history, science, and literature.

Equivalent Course(s): HIST 43203

#### ENGL 43250. The New Criticism. 100 Units.

n examination of primary works of The New Criticism, British and American. We will consider the theoretical variety and different critical practices of these loosely allied critics, who were often not allies at all. Authors to be studied: I.A. Richards, T.S. Eliot, F.R. Leavis, Kenneth Burke, John Crowe Ransom, Cleanth Brooks, Robert Penn Warren, W.K. Wimsatt, Yvor Winters, R. P. Blackmur, William Empson.

Equivalent Course(s): SCTH 36015, CMLT 36015

# ENGL 43708. The Poetry and Prose of Thomas Hardy. 100 Units.

A Victorian and a Modernist, a rare master of the arts of fiction and poetry, Thomas Hardy outraged Victorian proprieties and helped to make 20th century literature in English possible. Close reading of four novels and selected early middle, and late poems by Hardy, with attention to the contexts of Victorian and Modern literary culture and society. Instructor(s): Rosanna Warren Terms Offered: Winter. Course to be taught winter 2020

Note(s): For graduate students and advanced undergraduates.

Equivalent Course(s): ENGL 23708, SCTH 46011, FNDL 26011

# ENGL 44202. Psychoanalysis, Literature, Film. 100 Units.

We will read major works by Freud, Melanie Klein, D.W. Winnicott, and Slavoj Žižek, among other psychoanalytic theorists, in conjunction with literary works such as Sophocles's Oedipus Rex, Shakespeare's Hamlet, Edgar Allan Poe's "The Purloined Letter," Joseph Conrad's Heart of Darkness, Henry James's The Turn of the Screw, and Rudyard Kipling's "Mary Postgate." The course will conclude with one or more of Alfred Hitchcock's films. Topics include the unconscious, dreams, childhood, the uncanny, desire, subjects and objects, mourning, and the death drive. Requirements: one paper 10-12 pages, joint presentations in class, and regular postings to the online discussion board. Instructor(s): Maud Ellmann Terms Offered: Winter

Equivalent Course(s): GNSE 44202

# ENGL 45150. American Literature and Photography. 100 Units.

This class considers how photographic techniques spurred new literary methods. We'll discuss how visual media impact the development of forms, methods, and genres of literature, and how pictures and novels can be read together. Students will learn how to consider the visual register in novels, and how the drive to make fiction "real," or "photographic," helps to shed light on many attendant issues - the question of evidence, the problem of reliability, the terms of objectivity. We will discuss the drive to narrate real events in photographic and literary terms, and the limits of representation. Furthermore, we will think carefully about how discourses of race and poverty are imbricated with the development of photographic technologies and methods, and how racial groups such as American Indians are invented and reinvented in the advent of the mobile camera. Primary texts include fiction by Stephen Crane, Ella Cara Deloria, and Ralph Ellison and secondary texts include works from Roland Barthes, Walter Benjamin, Judith Butler, Susan Sontag, and Gerald Vizenor.

Instructor(s): Megan Tusler Terms Offered: Spring

Note(s): Instructor consent required for undergraduates.

Equivalent Course(s): AMER 25150, MAPH 40150, AMER 40150, ENGL 26150

# ENGL 45327. Politics of Media: From the Culture Industry to Google Brain. 100 Units.

Media theory frequently focuses on issues of technology as opposed to, or at the cost of, politics and culture. This course reorients attention to the intersection of media and cultural theory. We begin by reviewing key media theories from the Frankfurt School and the Birmingham School. Following a historical introduction, we explore the contemporary field of cultural media theory as it has unfolded in both the humanities and the social sciences. Students will think through how the sites of race, class, gender, and sexuality might frame and always already influence the ways that we think of media - from the broadcast media of Adorno and Horkheimer's culture industry that included radio, film, and television to contemporary pointcasting that is made up of digital and networked technologies. Alongside readings in an expanded media theory, we will engage artistic and cultural works, including literature, films, television serials, smart phone apps, video games, social media, and algorithms. We also explore methodological differences in media studies between the humanities and the social sciences.

Instructor(s): Patrick Jagoda & Kristen Schilt Terms Offered: Winter

Prerequisite(s): Before enrolling, MA students should email Professors Jagoda or Schilt on what you bring and hope to get out of the seminar

Equivalent Course(s): GNSE 45327, SOCI 50119, CDIN 45327, CMST 67827

## ENGL 45433. Book History: Methods, Practices, and Issues. 100 Units.

What is the history of the book? This course considers answers from literary scholars, historians, bibliographers, sociologists, and anthropologists over the past fifty years, using case studies from a variety of times, places, and textual traditions from the fifteenth century to the present to introduce the methods, practices, and issues of the field. This hands-on course meets in the Rosenthal Seminar Room in the Special Collections Research Center in Regenstein Library. Instructor(s): Eric Slauter Terms Offered: Winter

## ENGL 45613. How Does It Feel to Be an Outlier? Narratives of Medical 'Otherness'. 100 Units.

Ideas of what is "normal" and what is "different" are fundamental organizing concepts in scientific and humanistic thinking. Writers in both the sciences and the humanities use these concepts particularly when constructing narratives about how individuals experience selfhood and the world. This course examines a body of writings that depict the lives of those who identify, or are identified, as outliers. Students will approach this topic through medical case studies; through autobiographies and biographies about the experience of being physical or mental exceptions; and through writings by and about doctors, patients, medical researchers, and people who are the subjects of medical research. How do scientists, biographers, journalists, and others capture the experience of being different? What are the aims of outlier narratives? What ethical questions surround these writings? How do such narratives underscore or undercut concepts of what is "normal" and what is "different"? In addition to surveying the landscape of outlier literature, students will research and write an outlier narrative in the form of a medical case study, biography, journalistic profile, or memoir.

Instructor(s): P. Mason, N. Titone Terms Offered: Winter

Prerequisite(s): Third or fourth-year standing. Interested students are asked to send one page on why they want to take this course to pmason@uchicago.edu and ntone@uchicago.edu

Equivalent Course(s): ENGL 25613, BPRO 25600

## ENGL 46706. Global Intimacies. 100 Units.

This course investigates the intimate dimensions of contemporary transnational experience. We will focus on representations of familial bonds and on transformations of love relations under conditions of diaspora and migration, and we will consider whether migration and other forms of transnational experience might entail rethinking the contours of terms like family and intimacy. Authors may include Gordimer, Gunesekera, Hartman, Ishiguro, Kincaid, Lahiri, Mootoo, Shamsie, with films by Cronenberg, Liem, and key theoretical texts. (20th/21st)

Instructor(s): Sonali Thakkar Terms Offered: Spring Equivalent Course(s): GNSE 46706

## ENGL 46751. Of Whiteness. 100 Units.

In his essay "The Souls of White Folk," WEB Du Bois asks, "But what on earth is whiteness that one should so desire it?" This course will explore a multiethnic cultural and theoretical archive that grapples with the patterned and partial irrationality of this excessive racial desire. How does whiteness structure the racial/social field? What mechanisms regulate-or have regulated-populations' access to and desire for it? (18th/19th) Instructor(s): Christopher Taylor Terms Offered: Spring Equivalent Course(s): CRES 46751

# ENGL 47102. Dissident Lit. 100 Units.

This seminar will explore the literature and history of "the dissident," a central figure of late 20th-century and 21st-century human rights politics. Through our readings of novels, essays, and criticism drawn from a range of traditions (from the US and Latin America to Russia and East-Central Europe) we will consider both the possibilities and dilemmas of literary dissidence.

Equivalent Course(s): ENGL 27102, HMRT 27102, HMRT 37102

## ENGL 47600. Cinema in Africa. 100 Units.

This course examines Africa in film as well as films produced in Africa. It places cinema in Sub Saharan Africa in its social, cultural, and aesthetic contexts ranging from neocolonial to postcolonial, Western to Southern Africa, documentary to fiction, art cinema to TV, and includes films that reflect on the impact of global trends in Africa and local responses, as well as changing racial and gender identifications. We will begin with La Noire de... (1966), by the "father" of African cinema, Ousmane Sembene, contrasted w/ a South African film, African Jim (1960) that more closely resembles African American musical film, and anti-colonial and anti-apartheid films from Lionel Rogosin's Come Back Africa (1959) to Sarah Maldoror's Sambizanga, Sembene's Camp de Thiaroye (1984), and Jean Marie Teno's Afrique, Je te Plumerai (1995). The rest of the course will examine 20th and 21st century films such as I am a not a Witch and The wound (both 2017), which show tensions between urban and rural, traditional and modern life, and the implications of these tensions for women and men, Western and Southern Africa, in fiction, documentary and fiction film. (20th/21st)

Instructor(s): Loren Kruger Terms Offered: Spring

Prerequisite(s): One or more of the following: Intro to Film/ International Cinema AND/OR Intro to African Studies or equivalent

Note(s): This course also includes a weekly screening section.

Equivalent Course(s): CMST 34201, CRES 24201, CRES 34201, CMST 24201, GNSE 28602, ENGL 27600, CMLT 22900, ENGL 48601, GNSE 48602, CMLT 42900

## ENGL 48000. Methods and Issues in Cinema Studies. 100 Units.

This course offers an introduction to ways of reading, writing on, and teaching film. The focus of discussion will range from methods of close analysis and basic concepts of film form, technique and style; through industrial/critical categories of gener and authorship (studios, stars, directors); through aspects of the cinema as a social institution, psycho-sexual apparatus and cultural practice; to the relationship between filmic texts and the historical horizon of production and reception. Films discussed will include works by Griffith, Lang, Hitchcock, Deren, Godard.

Instructor(s): S.Skvirsky Terms Offered: Autumn

Equivalent Course(s): CMST 40000, MAPH 33000, ARTH 39900

ENGL 48502. Henry James and the Question of Evil: The Portrait of a Lady and the Turn of the Screw. 100 Units. Equivalent Course(s): SCTH 38502

## ENGL 48601. Cinema in Africa. 100 Units.

This course examines Africa in film as well as films produced in Africa. It places cinema in Sub Saharan Africa in its social, cultural, and aesthetic contexts ranging from neocolonial to postcolonial, Western to Southern Africa, documentary to fiction, art cinema to TV, and includes films that reflect on the impact of global trends in Africa and local responses, as well as changing racial and gender identifications. We will begin with La Noire de... (1966), by the "father" of African cinema, Ousmane Sembene, contrasted w/ a South African film, African Jim (1960) that more closely resembles African American musical film, and anti-colonial and anti-apartheid films from Lionel Rogosin's Come Back Africa (1959) to Sarah Maldoror's Sambizanga, Sembene's Camp de Thiaroye (1984), and Jean Marie Teno's Afrique, Je te Plumerai (1995). The rest of the course will examine 20th and 21st century films such as I am a not a Witch and The wound (both 2017), which show tensions between urban and rural, traditional and modern life, and the implications of these tensions for women and men, Western and Southern Africa, in fiction, documentary and fiction film. (20th/21st)

Instructor(s): Loren Kruger Terms Offered: Spring

Prerequisite(s): One or more of the following: Intro to Film/ International Cinema AND/OR Intro to African Studies or equivalent

Note(s): This course also includes a weekly screening section.

Equivalent Course(s): CMST 34201, CRES 24201, CRES 34201, CMST 24201, GNSE 28602, ENGL 27600, CMLT 22900, ENGL 47600, GNSE 48602, CMLT 42900

# ENGL 48700-48900. History of International Cinema I-II.

This sequence is required of students majoring in Cinema and Media Studies. Taking these courses in sequence is strongly recommended but not required.

#### ENGL 48700. History of International Cinema I: Silent Era. 100 Units.

This course provides a survey of the history of cinema from its emergence in the mid-1890s to the transition to sound in the late 1920s. We will examine the cinema as a set of aesthetic, social, technological, national, cultural, and industrial practices as they were exercised and developed during this 30-year span. Especially important for our examination will be the exchange of film techniques, practices, and cultures in an international context. We will also pursue questions related to the historiography of the cinema, and examine early attempts to theorize and account for the cinema as an artistic and social phenomenon.

Instructor(s): A. Field Terms Offered: Autumn

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): For students majoring in Cinema and Media Studies, the entire History of International Cinema three-course sequence must be taken.

Equivalent Course(s): MAAD 18500, CMLT 32400, CMST 48500, CMST 28500, ENGL 29300, ARTH 38500, ARTH 28500, CMLT 22400, ARTV 20002, MAPH 33600

# ENGL 48900. History of International Cinema II: Sound Era to 1960. 100 Units.

The center of this course is film style, from the classical scene breakdown to the introduction of deep focus, stylistic experimentation, and technical innovation (sound, wide screen, location shooting). The development of a film culture is also discussed. Texts include Thompson and Bordwell's Film History: An Introduction; and works by Bazin, Belton, Sitney, and Godard. Screenings include films by Hitchcock, Welles, Rossellini, Bresson, Ozu, Antonioni, and Renoir. Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): CMST 28500/48500 strongly recommended

Equivalent Course(s): MAAD 18600, CMLT 32500, CMLT 22500, ARTH 28600, ARTV 20003, ENGL 29600, MAPH 33700, CMST 28600, REES 45005, CMST 48600, ARTH 38600, REES 25005

# ENGL 50000. Pedagogies of Writing. 100 Units.

Pedagogies of Writing is a training course and practicum for graduate students hired to teach for the Writing Program. The course combines instruction in principles for effective academic writing and workshops focused on written commentary, instruction techniques, and small-group seminar design.

# ENGL 50106. Literary Theory: Pre-Modern, Non-Western, Not Exclusively Literary. 100 Units.

Readings in theories of literature and related arts from cultures other than those of the post-1900 industrialized regions. What motivated reflection on verbal art in Greece, Rome, early China, early South Asia, and elsewhere? Rhetoric, hermeneutics, commentary, allegory, and other modes of textual analysis will be approached through source texts, using both originals and translations. Authors to be considered include Confucius, Plato, Aristotle, Zhuangzi, Sima Qian, Augustine, Liu Xie, Abhinavagupta, Dante, Li Zhi, Rousseau, Lessing, Schlegel, and Saussure.

Instructor(s): Haun Saussy

Equivalent Course(s): KNOW 50106, CMLT 50106

# ENGL 50201. Contemporary Critical Theory. 100 Units.

This course will examine some of the salient texts of postmodernism. Part of the question of the course will be the status and meaning of "post"-modern, post-structuralist. The course requires active and informed participation. This course fulfills the winter core requirement for first-year Ph.D. students in Comparative Literature. Instructor(s): Francoise Meltzer Terms Offered: Winter

Equivalent Course(s): DVPR 50201, CMLT 50201

## ENGL 50205. Contemporary Critical Theory 1920-Present. 100 Units.

This course (the second half of the required Comparative Literature introductory sequence) roams the cultural landscape transformed by Freud, Saussure, Shklovsky, the First World War, and the Russian Revolution. Readings from psychoanalytic, formalist and Marxist criticism, from the corresponding heresies, and their successors. The aim throughout is to locate theoretical texts in the polemical situations to which they originally were addressed, and others in which they subsequently were invoked.

Instructor(s): Haun Saussy Terms Offered: Winter

Equivalent Course(s): CMLT 50205

# ENGL 50240. Renaissance Quanta and Renaissance Drama. 100 Units.

One effect of early English capitalism is its raising of the question, what constitutes a lot? and its practical correlate, how is abundance to be measured? This course reads early modern drama and popular print alongside inventories, bills of mortality, and other evidence of social and object quantification to study the separation of things from stuff and commoners from the commonty. (Med/Ren)

Instructor(s): Ellen MacKay Terms Offered: Winter

# ENGL 50300. Principles of Teaching Writing. 100 Units.

Principles of Teaching Writing (offered in Autumn only) is for graduate students who have been hired to teach Academic and Professional Writing (The Little Red Schoolhouse).

#### ENGL 50301. Catharsis, Tedium, and other Aesthetic Responses. 100 Units.

This seminar examines the ramifications of catharsis, tedium and other forms of aesthetic response, in other words the relationship between effect and affect in and in response to performance, live, mediated and in reading. Beginning with Aristotle and present day responses to catharsis, we will investigate the kinds of aesthetic response invoked by theories of tragedy (esp Hegel), realism (authority, attachment and estrangement in Lukacs, Adorno, Brecht, Benjamin), as well as theories of pleasure (Barthes, Derrida, Cixous) and tedium (Heidegger). We will also explore tedium through text and audio of The Hunchback Variations by local playwright Mickle Maher. We will conclude with, the potential and limitations of catharsis as an appropriate response to testimorial narrative in text and film during and after the dictatorship in Chile. An essential part of the discussion will be the problem of translating key theoretical terms, not only from one language to another but also from one theoretical discourse to another.

Instructor(s): Loren Kruger Terms Offered: Autumn

Equivalent Course(s): TAPS 50300, CMLT 50300

# ENGL 50400. Teaching Undergraduate English (Pedagogy) 100 Units.

This course seeks to provide a setting in which graduate students in English, prior to their first formal teaching assignment at this institution, can explore some of the elements of classroom teaching. With the recognition that not all our students will teach at the graduate level, the course is intended primarily as an introduction to teaching undergraduate English. While emphasizing the practical issues of classroom instruction, the class includes theoretical readings on pedagogy to help students reflect on and talk about their practice. Students will have significant opportunities to practice conceiving, designing, and running a college-level course in English, e.g., the opportunity to construct a sample syllabus, to lead a mock-classroom discussion, to grade a common paper.

Instructor(s): John Muse Terms Offered: Autumn

Prerequisite(s): This course is restricted to second- and third-year English Ph.D. students only; other students need consent of instructor.

# ENGL 50430. Breathing Matters: Poetics and Politics of Air. 100 Units.

This seminar will re-examine the notion of "inspiration" in its aesthetic and historical senses, revisiting textual and arts practices based on tropes of channeling, revelation, and possession as well as those based on embodied, performative and eco-conscious notions of circulation, interconnection, transformation, and receptivity. We will delve into the workings of air as an animating element that bridges and binds individuals to both internal and external forces. We will explore the long history of engagement with this element as it has been used to signify and enhance the circulation and interception of signs, dreams, and voices in literature, performance, audiovisual and electronic media, sculptural and architectural sites. We will examine the modern and contemporary politicization of air as a commons, and apply ourselves to the analysis and critique of industrial and post-industrial landscapes. A wide range of readings and viewings will include work by Hesiod, Coleridge, John Ruskin, Gerard Manley Hopkins, Frank O'Hara, Charles Olson, Ant Farm, Meredith Monk, Adriana Cavarero, Mladen Dolar, Nathaniel Mackey, Jorge Otero-Pailos, Latasha N. Nevada-Diggs, and many others. (20th/21st) Instructor(s): Jennifer Scappettone Terms Offered: Winter

Equivalent Course(s): CMLT 50430

# ENGL 51000. PhD Colloquium. 100 Units.

This course provides a theoretical and practical introduction to advanced literary studies. Readings are drawn from four modes of inquiry that helped to produce our discipline and that continue to animate scholarship in the present - namely, philology, criticism, aesthetics, and genealogy. In addition, participants will complete several short assignments meant to familiarize them with common skills and practices of literary studies.

Instructor(s): Benjamin Morgan Terms Offered: Autumn

Note(s): This course is intended for first-year English PhD students only; other interested students need consent of instructor.

# ENGL 51023. Narrative in the Time of Queer and Crip. 100 Units.

This course focuses on Crip and Queer theories of time as ways to get at varied understandings of temporality that destabilize the wobbly formation of "normal" and produce non-linear forms of life as narratable. By focusing on narrative unfolding, circling back, slowing down, and the precarity of the future, the course proceeds by putting two distinct strands of Queer and Crip Theory in conversation. We begin with what theorists have conceptualized as a distinct queer temporality (e.g. Halberstam, Freeman) alongside its complement, crip time (McRuer). We then turn to questions about queer futurity alongside critiques within Crip Theory that fully embrace the future as a way of embracing the present. Following these two strands, we see the productive dynamism and the tension between crip and queer temporalities in envisioning non-normative, non-heterosexual life.

Instructor(s): Sarah Pierce Taylor Terms Offered: Spring Equivalent Course(s): GNSE 51000, RLVC 51000

# ENGL 51225. Sources of Critical Theory. 100 Units.

This course is designed to give students a broad and rapid introduction to the philosophical and other sources that inform contemporary literary and critical theory. We will cover a lot of ground very quickly. The variety of humanism at issue in our work will be the sort that informs common sense or, as one of our authors might put it, ordinary understanding of the things that strike many of us as obvious about ourselves and other people. The critique will not make anything stop seeming obvious. But it will provide some tools for thinking differently about contemporary commonsense understandings of human life. We will conclude by seeing the way this material shapes work by two prominent recent critics, Slavoj Žižek and Lauren Berlant.

Instructor(s): C. Vogler Terms Offered: Autumn Equivalent Course(s): PHIL 51225

## ENGL 51502. Medieval Longing: Affect, Aisthesis, Desire. 100 Units.

A course on medieval aesthetics, in the sense both of the formal work of literary art and of the forms of sensation and affect produced by that work. We'll be examining especially the two great medieval discourses of longing, sexual and religious, as they figure relations of desire to impossible objects. Texts will be drawn from theology, courtly love poetry, allegory, romance, and mystical literature. (Med/Ren) Instructor(s): Mark Miller Terms Offered: Spring

# ENGL 52000. Research Paper Proseminar. 100 Units.

Required for students in their 2nd year of the English Ph.D. program. In this class, we will perform substantial revisions of a previous seminar paper.

Instructor(s): Eric Slauter Terms Offered: Spring Prerequisite(s): English Ph.D. students only.
# ENGL 52102. Hemispheric Studies. 100 Units.

This course examines the Hemispheric Studies approach to the literature of the Americas, which combines a commitment to comparativism with attention to the specificities of local contexts ranging from the Southern Cone to the Caribbean to North America. We'll investigate debates about the theories and uses of a method that takes the American hemisphere as its primary frame, yet does not begin with the U.S. as the default point of departure; and the conceptual and political limitations of such a method. Theories drawn from American Studies, Canadian Studies, Caribbean Studies, Latin American Studies, Poetry and Poetics, Postcolonial Studies, and U.S. Latinx Studies will be explored in relation to literature primarily written in the 20th and 21st centuries by writers residing throughout the Americas. In the last part of the course, we'll take meta-theoretical look at the development of Hemispheric Studies and the politics of academic field formation. No knowledge of Spanish or French is required. (18th/19th, 20th/21st)

Instructor(s): Rachel Galvin Terms Offered: Autumn

Equivalent Course(s): LACS 52102

# ENGL 52404. Arts of Life. 100 Units.

By foregrounding significant Enlightenment and Romantic configurations of the problem of the "arts of life," this course examines the mobile border between aesthetics and necessity in the long eighteenth century moment and in our own. In The Arts of Life (1802), John Aikin surveys the means of provision of food, clothing, and shelter in the Romantic age by means of a watchword distinction between those arts either "absolutely necessary for life's preservation" or "conducive to comfort and convenience," as against those "ministering to luxury and pleasure." The same idea memorably animates the aesthetic counter-tradition running from William Blake's "arts of life and death" to William Morris's "lesser arts of life. In contextualizing the problem of the "arts of life," we will resurrect productive historical thinking about an aesthetics that inextricably inheres within practices "necessary for the preservation of life." We will explore the enduring vitality of such a notion in our own moment of ecological crisis and of casualized cultural arts (marked by eclipsed autonomy for art's producers, consumers, and critics alike), with particular focus on new directions in design theory and the affordances of form; on literature's evolving location among the "arts of life"; and on the present reinvigoration of craft and design in popular visions of the aesthetic. (18th/19th, 20th/21st)

Instructor(s): Timothy Campbell Terms Offered: Winter

## ENGL 52502. Literary Theory: Auerbach's Mimesis. 100 Units.

This seminar will explore Western literary criticism from Plato to the late eighteenth-century conceived of as a prehistory of comparative literature as a discipline. The course will take as its particular lens the critical treatment of epic in some of the following authors: Plato, Aristotle, Longinus, Horace, Montaigne, Tasso, Giraldi, Sidney, Boileau, Le Bossu, St. Evremond, Dryden, Addison, Voltaire, Fielding, and Burke. The course will also examine both twentieth-century comparative approaches to epic (e.g., Auerbach, Curtius, Frye) and more recent debates within comparative literature with an eye to continuities and discontinuities in critical method and goals.

Instructor(s): David Wray Terms Offered: Autumn

Equivalent Course(s): CMLT 50105

# ENGL 52620. Edgeworth, Austen, Scott. 100 Units.

Three novelists-one Irish, one English, one Scottish-who were formative for several crucial developments in subsequent fiction: various strands of realism, the relationship between fiction and ethnography, the emergence of the national tale and the historical novel, techniques of narrative such as FID, and fictional treatment of education, science, political economy, and empire. Edgeworth, the least familiar name, is a remarkable writer and intellect, an innovator long neglected in Britain because she's Irish and in Ireland because she's Protestant. She produced a body work that was crucial for both Austen and Scott, different as they were between themselves, not to mention for later writers as different as Emily Bronte and Kasuo Ishiguro. Her rehabilitation, like Scott's, is under way but has a long way to go. There is work to be done there. Students will also have the opportunity to work on later novelists whose work was importantly shaped by any writer in this influential tric: domestic fiction after Austen, historical fiction after Scott, and so on. Belinda McKeon's Solace, for example, centers on an Irish graduate student whose dissertation is about Edgeworth. (18th/19th)

Instructor(s): Jim Chandler Terms Offered: Autumn

#### ENGL 52690. Racial Ecologies. 100 Units.

This course highlights theories of race that emphasize space, entanglement, and networks and poses questions like, how does race animate the anthropocene? How does race inflect climate change? What is the relationship between the turn to ontology and ecocriticism? (18th/19th, 20th/21st)

Instructor(s): Riley Snorton Terms Offered: Autumn

#### ENGL 53000. Dissertation Proposal Proseminar. 100 Units.

Required for students in their 4th year of the English Ph.D. program and all English Ph.D. students who have not yet entered candidacy.

Instructor(s): Tim Harrison Terms Offered: Spring Prerequisite(s): English Ph.D. students only.

# ENGL 53103. The Uses of Fiction: Poetry and Philosophy in Early Modernity. 100 Units.

This course attempts to unpack the ancient quarrel between poetry and philosophy by examining how each discourse draws on the power of poiesis in different ways. We will approach this topic by examining four discourses: first, formal treatments of poetry and poetics from antiquity (Plato, Aristotle) through the late Renaissance (Sidney, Tasso, Milton); second, explicitly fictional thought experiments employed by philosophers (Avicenna, Ibn Tufayl, Descartes, Locke, Condillac); third, poetry explicitly invested in the making of fictional worlds (Spenser, Milton, Cavendish); and fourth, recent scholarship on poetry's relationship to philosophy (Stanley Rosen, Victoria Kahn, Ayesha Ramachandran, Russ Leo, Guido Mazzoni, and others. (Med/Ren)

Instructor(s): Timothy Harrison Terms Offered: Autumn

# ENGL 54104. On Man: Sociogenesis and Subjectivation. 100 Units.

In this course, students will read and engage with how "Man" has been conceptualized and critiqued in certain areas of philosophy and critical theory. The class begins with Man's emergence in colonial contexts, with readings from Frantz Fanon, Homi Bhabha, and Sylvia Wynter. Students will also contend with Man's intersubjectivity with the "Subject" with readings from Michel Foucault, Judith Butler, Jose Munoz, and Hortense Spillers. Memoirs, novels, and auto-documentary films supplement this courses' exploration of the genealogies of "Man." (20th/21st)

Instructor(s): C. Riley Snorton Terms Offered: Winter

Equivalent Course(s): CRES 54104, GNSE 54104

## ENGL 54308. Economic Humanities: 19th C British Literature and Inequality. 100 Units.

Do the humanities have a role in thinking inequality? In the nineteenth century, political economy, the precursor to economics, was largely a humanistic method focused on questions of distribution rather than efficiency as is often true today. Recent new work in various fields as well as the resuscitation of political economy itself suggests Humanities may be reinserting itself into the inequality conversation. In this class, we will explore the shift from political economy to economics in the nineteenth century, the methodological revisions it occasioned and, inspired by new multidisciplinary thinking about economics, consider if this earlier moment can still help us think about inequality. We will read the fiction of Dickens, Hardy, Wells, Eliot, the political economy and economics of Smith, Mill, Jevons, Marshall, Veblen and modern theorists Orlean, Yuran, Feher, Nussbaum, Piketty. (18th/19th)

Instructor(s): Elaine Hadley Terms Offered: Winter

# ENGL 55000. Advanced Writing for Publication Proseminar. 100 Units.

Intended for students in the 5th year of the English Ph.D. program or above, this course will be a venue for revising a significant seminar paper to make it suitable for publication.

Instructor(s): Benjamin Morgan Terms Offered: Winter

Prerequisite(s): This course is restricted to English Ph.D. students only; other students need consent of instructor.

#### ENGL 55105. Theories of Racial Perception. 100 Units.

We tend to talk about racial perception as a singular and instantaneous act, but it is perhaps better understood as a complex series of procedures involving judgment, reading, rationalization, instinct, and conjecture that normally go undescribed. In this course we will read theory, criticism, and literature considering the varying combinations of techniques, processes, structures, and convictions that allow a subject to believe they are having an experience of race. How have writers variously learned to describe and call into question the mechanics of racial perception? And is imagining the end of racial perception the same as imagining the end of race? Exploring works from a variety of traditions, eras, and genres, we will trace investigations into race's perception as a color, a lack, a sense, a sound, a shape, a pathology, a habit, a surface, a depth, and a spell.

Instructor(s): Adrienne Brown Terms Offered: Winter

## ENGL 56000. Job Market Proseminar. 100 Units.

Required for students in their 6th year of the program and open to all English Ph.D. students on or preparing for the academic job market.

Instructor(s): Julie Orlemanski Terms Offered: Autumn

Prerequisite(s): English Ph.D. students only.

#### ENGL 56675. Violence, Trauma, Repair. 100 Units.

This course offers an interdisciplinary encounter with three concepts of abiding interest to scholars in the humanities and humanistic social sciences: violence, trauma, and repair. We begin with theoretical considerations about violence and its role in the founding of new political orders. The second part tackles the question of trauma, a concept that has achieved a remarkable prominence across many disciplines. But this ascendence also brought with it a number of critiques, among them that the concept is often deployed in apolitical and romanticized terms. We take on these critiques by bringing into conversation works from varying contexts: the Rwandan genocide, the Transatlantic Slave Trade, the Holocaust and Apartheid South Africa. The final part focuses on the consequences of violent acts and notions of repair formulated in the language of trauma, suffering and human rights. We ask: What is the operating rationale in this line of thinking about the contemporary world? How has it emerged, and through what kinds of institutions, interventions and techniques does it operate and extend its power across the globe?

Instructor(s): Sonali Thakkar & Natacha Nsabimana Terms Offered: Spring

Prerequisite(s): Consent required: Email Professor Nsabimana a paragraph long description about what you bring and what you hope to get out of this seminar.

Equivalent Course(s): HMRT 50005, ANTH 52510, CDIN 56675, CRES 56675

# ENGL 58500. The Middle Ages in Midcentury Thought. 100 Units.

This seminar will explore the role of the Middle Ages (its literature, art, philosophy, theology) in the intellectual culture of the years during and just after WWII. Readings will pair midcentury thinkers with their medieval interlocutors. For example, Simone Weil will be read alongside texts in the tradition of medieval mysticism; Hannah Arendt, alongside Augustine. Other intellectual figures may include: Erich Auerbach, Ernst Robert Curtius, Norbert Elias, Franz Fanon, Ernst Kantorowicz, Paul Zumthor, Erwin Panofsky, Leo Spitzer, Hans-Georg Gadamer, and Johan Huizinga. (Med/Ren, 20th/21st) Instructor(s): Benjamin Saltzman Terms Offered: Spring

Equivalent Course(s): GRMN 48519, SCTH 58500

# ENGL 59305. Tedium, Catharsis and other Aesthetic Responses. 000 Units.

TBD

Equivalent Course(s): CMLT 50301

# ENGL 59401. Realism, Social Modernism: Aesthetics and Politics Between the Wars. 100 Units.

The theoretical influence of arguments in the 1920s and 1930s about the relative value of realism and modernism is well known, but the entwinement of theory with cultural production and political debates is less so. This intensive reading course will attempt to historicize theory between the world wars--or more specifically between Bolshevik and German revolutionary responses to the first war and Popular Front againt the rise of Fascism leading to the second--by revaluating the work relatively familiar theorists such as Benjamin, Lenin, and esp. Lukacs in the light of their interlocutors, in fiction, film, and drama Brecht, Gladkov, Gorki, Pudovkin, Eisenstein, Dovzhenko, Seghers, Sholokhov, Christa Wolf, Konrad Wolf, Frank Beyer and their counterparts in America, the Living Newspaper, Film and Photo League, writers for New Masses as well as in theory Bloch, Eisler, Zhdanov, Kenneth Burke, Mike Gold, John Howard Lawson, among others. Essential texts are available in English but working knowledge of German (or Russian) and/or marxist theory very helpful. Instructor(s): Loren Kruger Terms Offered: Autumn

Equivalent Course(s): CMLT 59400, CMST 67100, SCTH 59400, GRMN 43700, TAPS 59400

# ENGL 59900. Reading and Research: English. 100 Units.

This course is intended for graduate students in the English doctoral program who can best meet program requirements by study under a faculty member's individual supervision. The subject, course of study, and requirements are arranged with the instructor.

# ENGL 62400. Volume 1 of Marx's Capital: A Critique of Political Economy. 100 Units.

Capital is frequently described as a generically difficult-to-categorize text: part satire, part history, part theory. Yet for all this hybridity or ambiguity, there is a sense in which the subtile makes its generic affiliation quite clear: it is a "critique of political economy." What exactly is "critique" and how, in light of recent debates in literary studies, might reading Capital sharpen our sense of what it can and cannot do? The bulk of our work in this seminar will be on Marx's text in its entirely, supplemented by essays by Fredric Jameson, Anna Kornbluh, George Caffentzis, David Harvey, Beverly Best, Barbara Johnson, Gayatri Spivak, and Moishe Postone. (18th/19th, 20th/21st)

Instructor(s): Sianne Ngai Terms Offered: Spring

## ENGL 65007. The Assemblage Mode. 100 Units.

Assemblage names a compositional practice in the material, visual, and literary arts. It also names a mode of conceptualizing non-aesthetic forms (markets, cities, nation states). This course will begin by focusing on the different semantic and pragmatic values of assemblage in archaeology, architecture, anthropology, human geography, and social theory (where Deleuze and Guattari's notion of agencement has played an especially prominent role). We will then turn our attention to an art exhibition, The Art of Assemblage (MOMA, 1961), and to the work of particular artists (Joseph Cornell, Robert Rauschenberg, Noah Purifoy, Betye Saar). Most centrally we will focus on literary experiments, beginning with William Burroughs and Brion Gysin's cut-up and fold-in techniques for generating prose fiction. Other authors will include Kathy Acker, David Antin, and Susan Howe, and there will be some historical detours (to address Melville, Dickinson, and Eliot, for instance, and to address some recent digital work). The course's overarching question asks: How might we understand the relation between assemblage as an artistic practice and assemblage deployed as an analytic? Local questions will address the significance of the literary experiments. Students will give two short presentations (on the reading) and one longer presentation that anticipates a final project (a paper about an object or archive from any historical period, or some alternative to a paper). (20th/21st)

Instructor(s): Bill Brown Terms Offered: Autumn

## ENGL 65008. Materialities. 100 Units.

In the first instance, this course surveys a range of thinking (by Elizabeth Grosz, Karen Barad, and Rosi Braidotti, among others) that has gone under the banner of 'new materialism,' emphasizing the vitality of matter and working to reject anthropocentrism. In the second instance, the course focuses on textual materialism within literary studies (both Susan Howe and Derrida, for instance), ultimately asking how we might begin to understand material texts within a new materialist frame. The widest frame for the course, though, will be provided by the question of how the materialisms of our moment (across fields and disciplines) can be understood through the analytics provided by historical materialism. We will read literary texts from different periods, and we will conduct at least two sessions in Special Collections. (20th/21st) Instructor(s): Bill Brown Terms Offered: Spring

# ENGL 70000. Advanced Study: English Language & Literature. 300.00 Units.

Advanced Study: English Language & Literature

ENGL 75000. Advanced Research. 300.00 Units. TBD Terms Offered: Autumn



# Department of Germanic Studies

## Department Chair

Eric Santner

Director of Undergraduate Studies

Margareta Ingrid Christian

Director of Graduate Studies

Florian Klinger

Professors

- David J. Levin
- Catriona MacLeod
- Eric L. Santner
- David E. Wellbery
- Christopher J. Wild

Associate Professors

Florian Klinger

- Assistant Professors
- Margareta Ingrid Christian
- Sophie Salvo

Senior Lecturers

- Catherine Baumann
- Maeve Hooper
- Kimberly Kenny, Norwegian

Assistant Instructional Professors

- Colin Benert, German
- Jessica Kirzane, Yiddish
- Nicole Burgoyne, German
- Shiva Rahmani, German

Emeritus Faculty

- Reinhold Heller
- Samuel Jaffe
- Kenneth J. Northcott
- Hildegund Ratcliffe

Affiliated Faculty

- Alice Goff, Ph.D., Assistant Professor of German History and the College Interests: Cultural and intellectual history 1750-1850, museums and collecting, aesthetics, looting, historical reception in the GDR.
- Philip V. Bohlman, Ph. D., Mary Werkman Professor of the Humanities and of Music; Chair of the Committee on Jewish Studies
  - Interests: German-Jewish and German-American ethnomusicology; theory and history of folksong.
- John W. Boyer, Ph. D., Martin A. Ryerson Distinguished Service Professor of History; Dean of the College Interests: German and Austrian history, 18th century to the present; religion and politics in modern European history; European urban history.
- Daniel Brudney, Ph. D., Associate Professor of Philosophy Interests: Marx, German philosophy, Frankfurt School.
- James Conant, Ph. D., Professor of Philosophy Interests: Kierkegaard, Heidegger, Wittgenstein.
- Kathleen Conzen, Ph. D., Professor of History Interests: German-American history and the history of international migration.

- Constantin Fasolt, Ph. D., Karl J. Weintraub Professor of History; Master of the Social Sciences Collegiate
   Division; Deputy Dean of the Division of the Social Sciences; Associate Dean of the College
   Interests: Early modern German history.
- Michael Forster, Ph. D., Professor of Philosophy Interests: Herder, Hegel.
- Michael Geyer, Ph. D., Samuel N. Harper Professor of German and European History Interests: German history of the 19th and 20th centuries with special interest in contemporary German and European affairs.
- Andreas Glaeser, Ph. D., Associate Professor of Sociology Interests: Theories of culture and identity; with reference to Germany mostly post-unification controversies, social memory and architecture, reality construction processes among civil servants in authoritarian regimes.
- Gary Herrigel, Ph. D., Associate Professor of Political Science Interests: Political economy of advanced industrial states (Germany, USA, Japan), German political and industrial history in the 19th and 20th centuries, social and political theory.
- Berthold Hoeckner, Ph. D., Associate Professor of Music and the Humanities Interests:19th century Austro-German music; Lyrik und Lied; Romantische Musikästhetik; Wagner; Adorno and music.
- Loren Kruger, Ph. D., Professor, Department of English; Department of Comparative Literature; Committee on African Studies; Committee on Cinema and Media Studies; Committee on Theatre and Performance Studies Interests: German literature 18th century to present (esp. drama); GDR and contemporary Germany; Brecht, Heiner Müller, Marxism; the Cold War; Frankfurt School; 'Das andere Deutschland.'
- Jonathan Lear, Ph. D., John U. Nef Distinguished Service Professor at the Committee on Social Thought and in the
  Department of Philosophy
- Interests: Freud, Wittgenstein, Heidegger.
- Francoise Meltzer, Ph. D., Mabel Greene Meyers Professor of French, Comparative Literature, and the Divinity School; Acting Director of the Franke Institute for the Humanities Interests: German romanticism, philosophy.
- Paul Mendes-Flohr, Ph. D., Professor of Modern Jewish Thought in the Divinity School, Committee on Jewish Studies; Associate Faculty in the Department of History Interests: German-Jewish intellectual history.
- Glenn W. Most, Ph. D., Visiting Professor in the Committee on Social Thought
  Interests: German literature and philosophy since the 18th century.
- Robert B. Pippin, Ph. D., Raymond W. and Martha Hilpert Gruner Distinguished Service Professor; Committee on Social Thought and Department of Philosophy
- Interests: Kant; German Idealism; Nietzsche; Heidegger; Modernity Theory.
- Moishe Postone, Ph. D., Raymond W. and Martha Hilpert Gruner Distinguished Service Professor of History; Committee on Jewish Studies

Interests: Marx, Frankfurt School, contemporary European social theory, contemporary German affairs (with particular focus on issues of anti-semitism and the relation of the Nazi past to postwar German society and culture).

- Robert Richards, Ph. D., Morris Fishbein Professor of the History of Science and Medicine; Professor in the Departments of Philosophy, History, Psychology, and the Committee on Conceptual and Historical Studies of Science Interests: German Romanticism, history and philosophy of science.
- Jerrold Sadock, Ph. D., Glen A. Lloyd Distinguished Service Professor, Department of Linguistics Interests: Germanic languages (Scandinavian, Yiddish).
- Malynne Sternstein, Ph. D., Associate Professor of Slavic Languages and Literatures Interests: Central European Studies, Literary, Psychoanalytic and Cultural Theory; Art and Media Theory
- David Tracy, Ph. D., Andrew Thomas Greeley and Grace McNichols Greeley Distinguished Service Professor of Catholic Studies and Professor of Theology and the Philosophy of Religion in the Divinity School; Committee on Social Thought

Interests: 19th century German philosophy and theology.

# Website

https://german.uchicago.edu/

# Overview

The graduate program in Germanic Studies at the University of Chicago stresses an interdisciplinary model of study, long an emphasis at this University, which allows students to construct fields of research in fresh ways. In order to draw on the University's strengths, both inside and outside the department, students are encouraged to work not only with departmental and affiliated faculty but with faculty throughout the University whose courses are of relevance to their particular interests.

The University's Workshops (non-credit, interdepartmental seminars that meet biweekly) offer a further avenue for interdisciplinary work. Students are also encouraged to participate in the department's colloquia and lecture/discussions.

Language courses taught in the department include German, Norwegian, and Yiddish.

## Application and Financial Support

Applicants to the Department of Germanic Studies should have a solid background in German language and culture. Students with undergraduate degrees in other fields are encouraged to apply, but must include with their application a list of relevant German/Germanic courses as well as a letter of recommendation from a faculty member able to evaluate their level of German language competency. Such students will be asked to make up deficiencies in their language preparation before entry into the graduate program. All entering students whose native language is not German are required to pass an ACTFL (American Council on the Teaching of Foreign Languages) oral proficiency examination in German during their first quarter in the program.

Admission to the department is competitive.

PhD students who matriculate in Summer 2020 and after will be guaranteed to have funding support from the University of Chicago, external sources, or a combination of the two for the duration of their program to include the following:

# Full tuition coverage

# Annual stipend

# Fully paid individual annual premiums for UChicago's student health insurance (U-SHIP, the University Student Health Insurance Plan)

The goal of the University's commitment to ensuring that students are supported is to allow students to prioritize their studies and prepare for rewarding careers. We expect students to remain in good academic standing and to be making progress toward completing degree requirements.

Students in the Division of the Humanities who entered their PhD program in Summer 2016 or later, and who are still enrolled in 2022-2023 will be fully incorporated into this new funding model, and will receive at least the guaranteed stipend level (subject to applicable taxes), full tuition coverage, and fully paid health insurance premiums for the duration of their program. Students are expected to remain in good academic standing.

Students who matriculated before Summer 2016 will receive at least the funding they were offered at the time of admission and may be eligible for additional funding, such as dissertation completion fellowships. Over the past several years, the Division of the Humanities has increased investments in funding to support students in degree completion.

Additional fellowships and awards are available to support language study, conference travel, and research travel.

Pedagogical training is a required component of doctoral education, and University resources can help you acquire the skills and experiences you need to feel at ease in the classroom, whether you are leading a discussion section, lecturing in the Humanities Common Core, or teaching a course of your own design.

The Department of Germanic Studies has some funds to support students in summer projects, travel, and research. In addition, the Norwegian Culture Program Endowment Fund provides some money for research and travel support for students interested in Norwegian language and culture.

Applications to the program must include a writing sample of not more than twenty pages, in German or English; Graduate Record Exam scores from the general examination; TOEFL (Test Of English as a Foreign Language) scores, if applicable; and three letters of recommendation.

The application process for admission and financial aid for all graduate students is administered through the divisional office of the Dean of Students (http://humanities.uchicago.edu/about/leadership/dean-of-students/). The Application for Admission and Financial Aid, with instructions, deadlines and department-specific information is available on the **Graduate Student Online Application page**. Please note that the application and all supporting materials are to be submitted online. Questions pertaining to admissions and aid should be directed to: humanitiesadmissions@uchicago.edu (%20humanitiesadmissions@uchicago.edu) or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu/, or call them at (773) 702-7752.

## Degree Requirements

The following is an outline of the main features of the graduate program. If you need additional information, please write directly to the Department of Germanic Studies (http://german.uchicago.edu/graduate/).

Students in the Department of Germanic Studies are admitted into the Ph.D. program of study. Students interested in a one-year interdisciplinary Master's program in Germanic Studies should contact the Master of Arts Program in the Humanities (http://humanities.uchicago.edu/depts/maph/). Study towards the M.A. degree, normally completed after the first year, is intended as an introductory period, a time for both faculty and students to decide on the suitability of an extended graduate program. All students entering the Ph.D. program with a master's degree from another institution will undergo an informal evaluation at the end of their first year in the department to assess their progress and to plan their further course of study.

# Degree of Master of Arts

#### Course Work

Three quarters of course work and a total of eight courses are required during the first year of study. These include the mandatory pedagogy course ('Acquisition and Teaching of Foreign Languages'). A completed M.A., which includes the pedagogy courses and a 'superior' rating on the German oral proficiency test, are prerequisites for teaching appointments. Besides the pedagogy course, students must take at least one course each quarter from departmental faculty, and at least two additional courses from departmental faculty during the year. The remaining courses could contain little or no Germanic material and may be taken primarily for methodological, theoretical, or historical interest. Course selections must receive the approval of the Director of Graduate Studies (http://german.uchicago.edu/graduate/). All courses must be taken for a letter grade. We expect students to develop a broad historical sense of German culture through coursework as well as their own background reading. The primary aim of the master's year is for students to explore a variety of materials, approaches and problems.

#### Language Examination

Students who do not achieve a 'superior' rating on the oral proficiency examination in German (to be taken early in their first quarter) will be advised to undertake further language training or to take other steps to improve their skills; they will be re-tested during the second quarter.

#### M.A. Exam

The purpose of the M.A. exam is to test students' ability to work with concepts central to the discipline, to articulate literary-historical arguments, to discuss significant patterns that extend beyond individual texts, and to articulate how such concepts relate to the interpretation of individual works. In addition, the exam establishes a useful foundation of knowledge upon which the student can build in later studies.

The examination takes place in the eighth week of Spring Quarter of the student's first year of graduate study. Its basis is a list of some twenty to twenty-five texts selected by the student in consultation with the two members of the student's M.A. exam committee. (The committee—consisting of two members of the department's core faculty—is to be designated by the Director of Graduate Studies (http://german.uchicago.edu/graduate/) in consultation with the student.) This list reflects a category of literary research such as a genre, a period, or a general concept bearing on a mode of writing. Examples of the former might be "The Bourgeois Tragedy" or "Modern Urban Short Prose" or "The Elegy." Periods can be variously conceived: Enlightenment, Realism, Weimar Republic. General concepts are more abstract categories such as "narrative" or "performance" or "argumentative writing." Lists could also be organized along thematic lines or in terms of a traditional narrative subject. The point is that the list be designed so as to sustain a process of coherent intellectual inquiry. In addition to the 20-25 primary texts, the list includes a representative cross-section of secondary literature addressing the topic under study.

The examination itself has two components:

- a) a take-home written examination, and
- b) an oral examination approximately one hour in length.

The take-home component consists of three essays (of two and one half, never more than three double-spaced pages) written in answer to questions devised by the faculty. These questions offer the student an opportunity to demonstrate her/his ability to explore various intellectual issues raised by the list as a whole as well as by specific works on the list. Students will receive these questions on Friday morning of the eighth week of classes and hand in their completed essays by 5:00 p.m. the following Monday. The oral examination is devoted to a critical discussion of the students' three essays as well as to works included on the list but not addressed in the written part of the examination. It will take place one week after the written exam. Following a forty-minute discussion of the essays, the student and the faculty examination committee will assess the student's overall progress, including course work.

A crucial aspect of the M.A. examination is planning and advising. Students should choose their examiners and have one planning meeting with each examiner by the eighth week of Autumn Quarter. Students should choose examiners and design the lists with a view to the seminars they plan to attend throughout the year. Students must submit their lists for approval at the end of the fourth week of Winter Quarter. Two weeks after submission, they should meet with their examiners to discuss preparation for the exams. During Spring Quarter, students should meet with their examiners twice prior to the exam in order to discuss questions arising from their readings. Of course, throughout the process students are encouraged to discuss questions arising from their readings with other faculty members, both inside and outside the Department of Germanic Studies.

## First Year: Time Schedule for M.A. Exam

Fall, Week 8 - Choose examiners Winter, Week 4 - Submit exam list for approval Winter, Week 7 - Arrange to meet with examiners to discuss exam preparation Spring, Week 8 - Written exam Spring, Week 9 - Oral exam

# The Degree of Doctor of Philosophy

The Ph.D. phase of study will be self-designed to a greater extent than the M.A. phase. Students who enter with an M.A. from another university will be required to take one pedagogy course in their first year ('Acquisition and Teaching

of Foreign Languages'). This requirement may be waived by the department if a student can demonstrate that equivalent work was successfully completed at another institution. Completion of the course (or a departmental waiver), together with a 'superior' rating on the oral proficiency interview in German taken early in the first quarter (or re-taken later if necessary), are prerequisites for teaching appointments.

COURSE WORK: Students will establish that balance of course work and individual preparation that best suits their intellectual agenda. Course selections, however, must be approved by the director of graduate studies. A minimum number of eight courses over two years, not including the pedagogy course, is required. All of these courses must be taken for credit. Six must be taken for a letter grade. The remaining two may be taken Pass/Fail. Typically, the two post-M.A. years (during which students will also be teaching) will look as follows: two seminars each quarter the first year; at least one seminar each quarter for the fall and winter quarters of the second year; exams in the spring quarter of the second year. In this way students will have ample time during the second Ph.D. year to prepare for the exams.

LANGUAGE EXAMINATION: All students are required to pass one university foreign language reading examination before taking their Ph.D. oral exams. The choice of language should be made in consultation with the director of graduate studies. Exams are administered by the Chicago Language Center.

Ph.D. EXAMINATIONS: The exam focuses on a small archive of literary, philosophical, and literary critical works (approximately 50 works) established by the student. This "major field list" should be organized around a broad topic that will in many cases anticipate the larger field within which the dissertation project will be situated. Some examples from previous exams: "Discourses of Madness from Kant to Musil," "Worldly Provincialism: German Realism 1850-1900," and "The Aesthetics of Sacrifice in Postwar German Literature and Art." Works on the list should be grouped into clusters according to categories and questions relevant to the topic. These criteria should be expressly formulated in the list. Students are encouraged to meet with as many faculty members as possible as they work on these materials. In consultation with the director of graduate studies, they should arrange for an exam committee of three faculty members: two faculty members (normally both members of the department) to compose and evaluate the written examination questions, and a third faculty member (from either departmental or resource faculty) to serve as an additional examiner for the oral exam. At the beginning of the fall quarter of the second Ph.D. year, students will submit a preliminary exam list to the faculty committee they have chosen and to the director of graduate studies.

The four-hour, open-book, written exam will normally be taken around the seventh week of spring quarter. Five weeks prior to the exam, each student will submit to the exam committee and to the director of graduate studies a final draft of the list. As noted, the list should be organized by way of the categories and questions that indicate what the students considers to be the salient issues animating the different clusters of texts. Faculty will use this list as a guide in preparing the exam. Within two weeks of the exam, the full committee will meet with the student for an hour-long discussion that will encompass the exam and plans for the dissertation. Students should work on their dissertation proposal defense at the beginning of the fall quarter of the third Ph.D. year. For further details regarding the Ph.D. exams, students are encouraged to consult with the director of graduate studies.

To summarize, the second Ph.D. year will normally flow in the following way. In the fall quarter, the student establishes the exam committee in consultation with the director of graduate studies. A preliminary list is submitted by fifth week of the quarter. The winter quarter is dedicated to reading and exam preparation. By the second week of spring quarter, the final list (articulated into clusters of texts) is submitted to the committee. The written exam is taken in the second half of the quarter, typically around the seventh week. Within two weeks of the written exam, the student meets with the committee for an hour-long discussion of the exam and dissertation plans. The summer after the exam is dedicated to elaborating the dissertation proposal. The final proposal is due no later than one quarter (not including summer) after passing the Ph.D. exam.

DISSERTATION PROPOSAL: Within three weeks of the Ph.D. exam, a student must identify a primary dissertation advisor (in some cases there will be two co-advisors). A full dissertation committee of three members will be established in consultation with the advisor. The committee need not be identical with the exam committee and there is always the possibility that the dissertation committee and primary advisor(s) will change over the course of the project (it may turn out, for example, that another faculty member proves to be more engaged with the primary materials of the dissertation). The proposal itself ought not attempt to predict the final conclusions of the project before the research is fully under way. Instead, it should seek to divide the project into subordinate questions and to rank the parts of the project in terms of priority. It should include a preliminary bibliography and a potential chapter structure, and also indicate a rough timetable for the research and writing of the dissertation. The proposal of approximately 20-25 pages should be problem-driven and question-oriented, and should contextualize the project within relevant scholarly debates. The student will discuss the project in a proposal defense with the dissertation committee, to be scheduled in consultation with the primary advisor and the departmental administrator. This will typically be done one quarter (not including summer) after the Ph.D. examination.

SYLLABI PROPOSALS: During the third summer of the Ph.D. program, students will compose two syllabi, one for an upper-division undergraduate class and one for a graduate seminar (consultations with faculty about the syllabi should already have begun in the spring quarter). These syllabi may overlap to some extent with the dissertation project but should ideally represent other areas of interest and developing expertise. They may be designed as courses in translation, courses taught in German, or courses requiring reading knowledge of German. In many cases students will wish to submit one of these syllabi for the annual Tave competition in the winter quarter. (The Stuart Tave Teaching Fellowship allows graduate students to teach a free-standing, self-designed undergraduate class.) The primary advisor(s) of the dissertation will meet with the student in the course of the fall quarter to discuss and evaluate the syllabi.

WRITING THE DISSERTATION: After the proposal has been approved by the readers, the student should plan on spending the remainder of that year researching and reading. Some students may spend this time away from campus; others may choose to remain in Chicago to work closely with their committee. Students are strongly encouraged to try to complete the dissertation during the sixth year. All students should complete the dissertation by the end of the fall quarter of their seventh year.

# Teaching in the College

Graduate students in the Department of Germanic Studies at the University of Chicago will enter the job market with a solid basis in current pedagogical theory and practice as well as a range of teaching experiences in a variety of classroom settings. Teaching in the undergraduate language program is an integral part of the graduate program.

Before they begin teaching, graduate students must participate in a graduate seminar on pedagogy ('Acquisition and Teaching of Foreign Languages'). This course is an introduction to foreign language acquisition and to the theoretical models underlying current methods, approaches and classroom practices. Syllabus and test design and lesson planning are also treated. All participants do two days of observation and two days of supervised teaching in a first-year class.

Graduate students have the opportunity to teach in the beginning and intermediate German language program (http:// german.uchicago.edu/graduate/). They have full responsibility for the courses they teach, including syllabus design, day-today instruction, test design, grading and all other record keeping. Input from the graduate students is also critical in the ongoing implementation and revision of the curriculum. Internal grant monies have been made available to support the development of an on-line writing project designed by graduate students, as well as other curricular innovations.

Graduate students also have the opportunity to work as on-site coordinators and/or instructors in study-abroad programs in Vienna and Freiburg (http://german.uchicago.edu/graduate/). The preparation of students for study-abroad and their reintegration into the curriculum is an ongoing process in which graduate students, in their roles as instructors, are deeply involved.

Each fall there is an orientation for all graduate students who will teach that year. It is held in conjunction with the Center for Teaching and Learning (http://teaching.uchicago.edu/) and deals with general procedural and pedagogical issues as well as specific course objectives and practices. This inter-departmental cooperation also includes jointly held workshops and seminars on different topics in the field of second language teaching, offered by University of Chicago faculty and experts from other institutions.

# Germanic Studies Graduate Courses

## GRMN 32321. Aby Warburg and the Origins of Kulturwissenschaft. 100 Units.

This course explores Aby Warburg as a founder of Kulturwissenschaft in the context of other thinkers of the time such as Sigmund Freud and Walter Benjamin. Trained as an art historian with an expertise in Renaissance art, Warburg morphed into a historian of images (i.e., Bildwissenschaft) and - more broadly - into a historian of culture. We will trace Warburg's cultural historical method as it develops primarily from philology, but also art history, anthropology, the comparative study of religions, and evolutionary biology. How does Warburg read culture? What is his methodological approach for examining a wide variety of cultural artifacts ranging from Ovid'sMetamorphoses, Poliziano's poetry, and Dürer's etchings to postal stamps and news photographs? How can these artifacts be vehicles for cultural memory? And how does the transmission of cultural memory in artworks manifest itself in different media such as literary texts, religious processions, astrological treatises, photography, and painting? Moreover, how does Warburg's work help us contextualize and historicize 'interdisciplinarity' today?

Instructor(s): Margareta Ingrid Christian Terms Offered: Autumn Note(s): Conducted in English. Equivalent Course(s): GRMN 22321

#### GRMN 35421. Babylon Berlin: Politics and Culture in the Weimar Period. 100 Units.

This seminar will focus on the political and cultural turmoil of the Weimar Republic. Course material will include novels, poetry, political essays, philosophy, visual art, and film. Among authors and artists addressed: Ernst Jünger, Walter Benjamin, Alfred Döblin, Fritz Lang, Georg Grosz, Irmgard Keun, Hannah Höch, Bertold Brecht, Carl Schmitt. Instructor(s): Eric Santner Terms Offered: Spring Note(s): Advanced undergrad by consent only. Equivalent Course(s): GRMN 25421

## GRMN 35721. Literature as Self Help: The Poetry of Rainer Maria Rilke. 100 Units.

Rainer Maria Rilke's writing is famous for its lyrical intensity. The pathos of his poetic language appears to 'move' and 'touch' readers in an unparalleled way. Soldiers going to fight in the Second World War carried volumes of Rilke's poetry in their knapsacks and letters of fallen soldiers contained quotes from his verse ('Who talks of victory? To endure is all.'). Recent editions of his writings, such as Rilke on Love and Other Difficulties(1994), Rilke for the Stressed(1998) or Words of Consolation(2017), attest to Rilke being viewed as someone from whom readers expect insight into the value or vanity of life. In this course, we will read selections of Rilke's poetry and correspondence alongside excerpts from his writings on art to critically examine his language's purported ability to express our innermost feelings and to offer solace. Along the way, we will also pay attention to situating his work in the context of 'modernism.' Other readings by: Paul de Man 'Tropes (Rilke),' Rita Felski 'Uses of Literature,' Beth Blum 'Self-Help Compulsion: Searching for Advice in Modern Literature,' among others. Readings and discussions in English. Those who read German will read the texts in the original. Instructor(s): Margareta Ingrid Christian Terms Offered: Autumn Equivalent Course(s): GRMN 25721, FNDL 25721

# GRMN 34921. Robert Musil: Altered States. 100 Units.

This course is an introduction to the work of Robert Musil, one of the major novelists of the twentieth century. We will focus on Musil's idea of the 'Other Condition' [der andere Zustand], which he once described-in contrast to our normal way of life-as a 'secret rising and ebbing of our being with that of things and other people.' What is this 'Other Condition': what are its ethics and aesthetics, and how can it be expressed in literature? We will begin with readings from Musil's critical writings and early narrative prose, then devote the majority of the quarter to his unfinished magnum opus, The Man without Qualities. Particular attention will be paid to Musil's experimentations with narrative form and his development of the genre of 'essayism. Readings and discussion in English.

Instructor(s): Sophie Salvo Terms Offered: Spring

Equivalent Course(s): GRMN 24921, FNDL 24921

# GRMN 34321. Literature of the Weimar Republic. 100 Units.

In this course, we will turn to the 'golden twenties' of the previous century to examine a series of texts from Germany's first republic, its first democratic period, between 1918 and 1933. The Weimar Republic was a period of political experimentation; of exceptional intellectual and artistic creativity; and of social upheaval. We will close-read texts, alongside a selection of films and artworks, and situate them in their turbulent historical context. Readings include: Walter Benjamin, Anna Seghers, Siegfried Kracauer, Ernst Bloch, Ricarda Huch, Alfred Döblin, Bertolt Brecht, Erich Kästner, Gertrud Kolmar. Readings and discussions in English. Those who read German will read the texts in the original. Instructor(s): Margareta Ingrid Christian Terms Offered: Autumn Equivalent Course(s): GRMN 24321

# GRMN 42221. The Fragment. 100 Units.

A central experimental genre of Early Romanticism, the fragment was defined by Friedrich Schlegel in Athenäums-Fragment 206 as: 'entirely isolated from the surrounding world like a little work of art and complete in itself like a hedgehog.' This seminar will consider fragments both conceptually and as isolated texts that are, however, gathered together materially in medial collections such as encyclopedias and albums. What is the relationship of the fragment to totality or coherence? What kinds of knowledge and reading practices does the fragment presuppose? Readings will include fragments and fragmentary works by, among others, Friedrich and August Wilhelm Schlegel, Novalis, and Heine. Instructor(s): Catriona MacLeod Terms Offered: Spring

#### GRMN 42820. Ekphrasis. 100 Units.

What happens when a text gives voice to a previously mute art work? Ekphrasis - the verbal representation of visual art - continues to be a central concern of word and image studies today. The understanding of ekphrasis as an often hostile paragone between word and image exists alongside notions of a more reciprocal model involving a dialogue or 'encounter' between visual and verbal cultures. The affective dimension of the relationship -- ekphrastic hope, ekphrastic fear -- has also been prominent in recent scholarship. Drawing on literary works and theories from a range of periods and national traditions, the course will examine the long history of ekphrasis. Why are certain literary genres such as the novel or the sonnet privileged sites for ekphrasis? How can art history inform our understanding of such encounters, and to what extent can we say that it is a discipline based in ekphrasis? What can we learn from current work on description, intermediality, narrative theory, and translation theory? Readings from Homer, Philostratus, Lessing, Goethe, Keats, A.W. Schlegel, Kleist, Sebald, Genette, among others.

Instructor(s): Catriona MacLeod Terms Offered: Winter Equivalent Course(s): ARTH 42820



# Department of Linguistics

# Chair

Lenore Grenoble

Professors

- Diane Brentari
- Susan Gal, Anthropology
- Anastasia Giannakidou
- John Goldsmith
- Lenore Grenoble
- Chris Kennedy
- Jason Merchant
- Salikoko Mufwene
- Michael Silverstein, Anthropology
- Alan Yu
  - Associate Professors
- Karlos Arregi Director of Graduate Studies
- Amy Dahlstrom
- Itamar Francez
- Jason Riggle
- Ming Xiang

Assistant Professors

Allyson Ettinger

Provost's Postdoctoral Scholars

- Natalia Bermudez
- Monica Do
- Sharese King
- Erik Zyman

Instructor

Andrew Murphy

Humanities Teaching Fellows

- Patrick Muñoz
- Adam Singerman

Instructional Professors

- Stefanos Katsikas
- Fidèle Mpiranya
- David Reinhart

Emeritus Faculty

- Howard I. Aronson, Linguistics and Slavic Languages & Literatures
- Bill Darden, Linguistics and Slavic Languages & Literatures
- Victor Friedman, Linguistics
- Jerrold Sadock, Linguistics

Since 1926, the Department of Linguistics at the University of Chicago has been at the center of the development of the field, counting among its faculty linguists of the first rank such as Sapir and Bloomfield. It is theory-oriented with a deep empirical interest in languages. One of its outstanding characteristics is its commitment to a wide range of approaches to the study of language. Interdisciplinary, interdepartmental study is encouraged, and students regularly work with faculty in several other departments. Students are expected to become active researchers as soon as possible after their arrival here. Many students come with strong undergraduate training in linguistics, or with a Master's degree; others come with strong training in fields such as philosophy, mathematics, or a particular language or language group. The faculty are involved in

synchronic and diachronic research on languages from around the world. These varied interests are reflected in the topics of the dissertations that have been written in the Department.

#### Program

The graduate program in linguistics, which culminates in a PhD degree, is intended to be completed in **six years**. The University of Chicago operates on the quarter system. Graduate students normally register for **three courses per quarter**, **for three quarters per year**. Students generally take three to four years of coursework.

In the first two years, students take eight foundational (https://linguistics.uchicago.edu/graduate/degree-requirements/ #course)courses (https://linguistics-test.uchicago.edu/graduate/degree-requirements/#course) selected from a range of available options. Six of these eight classes must be completed during the student's first year in the program.

In addition to these foundational courses, students must also take a methods course and three additional graduate-level courses in linguistics.

In the second and third years, students continue taking courses and write two qualifying papers (https:// linguistics.uchicago.edu/node/72/#papers) under faculty supervision. In addition to these major landmarks, students are required to satisfy a non-Indo European language requirement (https://linguistics.uchicago.edu/node/72/#language) and to pass a reading examination in an additional language other than English. In years two and three, when students are writing qualifying papers, they must also take the Research Seminar course.

Upon completion of the qualifying papers and course and language requirements and defense of a dissertation proposal by the end of the fourth year students are admitted to candidacy for the PhD; the only remaining requirement is the **dissertation**.

# Application and Admission

Completed applications for admission and aid, along with all supporting materials, are due in mid-December for the academic year that starts in the following Autumn.

Four parts of the application are critically important and should accompany the application: the student's academic record, letters of recommendation submitted by persons able to describe the student's achievements and promise, the student's statement of purpose, which describes the intellectual issues and subjects which they hope to explore at Chicago, and a sample of pertinent written work that demonstrates the applicant's research interests or capabilities. The sample may consist of published essays, class term papers, or a B.A. or M.A. thesis, or some combination of all of these. The student's academic record is documented through official transcripts, but applicants are also encouraged to submit as supplemental material an 'annotated transcript': a file they create that lists all the courses they have taken which are relevant to graduate study in linguistics, with the grade received, the full name of the instructor, major texts used or studied, and a brief (no more than five sentences) description of the material covered in the course. Such a supplemental file is more informative for judging the preparation of an applicant than is the official transcript.

When completing the application form, it is of benefit to the applicant to be as specific as possible in describing his or her research interests. General comments are of relatively little use; applicants are encouraged to discuss specific linguistic subject matters that they are interested in or have worked on.

If an applicant knows faculty members with whom he or she might work, the latter's names should be given as well. The faculty of the Linguistics Department would be happy to answer any questions that prospective students may have. Please contact them individually regarding their research or classes, or contact the Director of Graduate Studies for more general or administrative questions. Contact information is available at the Linguistics Department website (http:// linguistics.uchicago.edu).

The application process for admission and financial aid for all graduate programs in Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/admissions/)

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu, or call them at (773) 702-7752.

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

# Linguistics Courses

# LING 23200. Topics in Semantics and Pragmatics. 100 Units.

This focus of this course is conversational implicature. We will take the classic characterization of implicature in Grice as our starting point, and spend the rest of the quarter working through subsequent proposals that refine, rethink and/or reject it, and the empirical and theoretical concerns that motivate them. Topics to be discussed include: the relation between implicature and semantic composition; the nature and calculation of alternatives to what is said; game theoretic approaches to implicature and their relatives; Bayesean pragmatics; free choice inferences; manner implicature; pragmatic weakening vs. pragmatic strenthening.

Equivalent Course(s): LING 42010

## LING 30150. Language and Communication. 100 Units.

This course can also be taken by students who are not majoring in Linguistics but are interested in learning something about the uniqueness of human language, spoken or signed. It covers a selection from the following topics: What is the position of spoken language in the usually multimodal forms of communication among humans? In what ways does spoken language differ from signed language? What features make spoken and signed language linguistic? What features distinguish linguistic means of communication from animal communication? How do humans communicate with animals? From an evolutionary point of view, how can we account for the fact that spoken language is the dominant mode of communication in all human communities around the world? Why cannot animals really communicate linguistically? What do the terms language 'acquisition' and 'transmission' really mean? What factors account for differences between 'language acquisition' by children and by adults? Are children really perfect language learners? What factors bring about language evolution, including language speciation and the emergence of new language varieties? How did language evolve in mankind? This is a general education course without any prerequisites. It provides a necessary foundation to those working on language at the graduate and undergraduate levels.

Instructor(s): Salikoko Mufwene Terms Offered: Autumn

Equivalent Course(s): LING 20150, CHDV 20150, EDSO 20150, CHDV 30150

# LING 30201. Syntactic Analysis I. 100 Units.

This course is an advanced survey of topics in graduate syntax examining current syntactic theory through detailed analysis of a range of phenomena and readings from the primary research literature.

Instructor(s): Erik Zyman Terms Offered: Autumn

Prerequisite(s): Graduate student standing. Undergraduates with a grade of A or A- in Intro to Syntax may petition the instructor for admission

## LING 30202. Syntactic Analysis - II. 100 Units.

This course is a continuation of Syntax I. The emphasis will be on A'-movement and ellipsis operations within the framework of Principles and Parameters and the Minimalist Program. Although we will examine different types of movement and ellipsis constructions, as well as their interactions, the objective will be to understand to what extent we can develop a general theory of syntax. The course will have a strong cross-linguistic aspect to it, examining data from Irish, Austronesian languages, Mayan languages, Wolof, Russian, Romance, Germanic, and others. The topics will include wh-movement in questions, relative clauses, and other constructions, islands and other constraints on movement, sentence fragments (sluicing, split questions), VP-ellipsis, and gapping. Instructor(s): Andrew Murphy Terms Offered: Winter

Prerequisite(s): LING 30201

## LING 30301. Semantics and Pragmatics I. 100 Units.

This is the first in a two-course sequence designed to provide a foundation in the scientific study of all aspects of linguistic meaning. The first quarter focuses primarily on pragmatics: those aspects of meaning that arise from the way that speakers put language to use, rather than through the formal properties of the linguistic system itself, which is the domain of semantics. However, a central goal of the course will be to begin to develop an understanding of the relation between pragmatics and semantics, by exploring empirical phenomena in which contextual and conventional aspects of meaning interact in complex but regular and well-defined ways, and by learning analytical techniques that allow us to tease these two aspects of linguistics meaning apart.

Instructor(s): Itamar Francez Terms Offered: Winter

## LING 30302. Semantics and Pragmatics II. 100 Units.

This is the second in a two-course sequence designed to provide a foundation in the scientific study of all aspects of linguistic meaning. The second quarter focuses on the syntax-semantics interface and cross-linguistic semantics. The class will introduce in detail a theory of the way in which the meaning of complex linguistic expressions is formed compositionally from the meaning of constituent parts, and the interaction of semantic and syntactic composition. This theory will form the basis for exploring some empirical questions about the systematicity of cross-linguistic variation in the encoding of meaning.

Instructor(s): Chris Kennedy Terms Offered: Spring Prerequisite(s): LING 30301

LING 30800. Phonology-1. 100 Units. Equivalent Course(s): LING 20800, ANTH 37301

LING 30900. Phonology-2. 100 Units. Equivalent Course(s): LING 20900, ANTH 37302

# LING 31000. Morphology. 100 Units.

This course is an advanced survey of topics in morphology examining current morphological theory through detailed analysis of a range of phenomena and readings from the primary research literature. The topics covered include blocking, inflectional features, syncretism, allomorphy and suppletion, and morpheme order. Instructor(s): Karlos Arregi Terms Offered: Spring

Equivalent Course(s): ANTH 37500

# LING 31720. Sociophonetics. 100 Units.

Variation is a ubiquitous feature of speech, yet most variations observed are non-random. This course will examine this type of structured heterogeneity (Weinreich et al. 1968) from the point of view of sociophonetics. We will focus on the interrelationships between phonetic/phonological form and social factors such as speaking style and the background of the speaker, with a particular interest in explaining the origins and transmission of linguistic change. Our goals will be to (a) acquire the phonetic and phonological foundation necessary to conduct sociophonetic research through practical exercises; (b) survey new sociolinguistic research that addresses issues in phonetic and phonological theories; and (c) locate and explain phonetic variation in its social context while drawing on current approaches to the relationship between language and society. This course will give students hands-on experience with designing and conducting experiments. As part of the empirical foundation of this course, we will focus on sociophonetic variation across Chicago neighborhoods. For a final project, students are required to conduct a small-scale study investigating a research question of relevance to sociophonetic research. LING 20101 or graduate student standing.

Instructor(s): Alan Yu Terms Offered: Winter Equivalent Course(s): LING 21720

## LING 33750. Language and Violence. 100 Units.

Language is generally associated with the abstract realm of thought, representation and expression, a realm that contrasts sharply with the material realm in which we tend to place violence. Language is furthermore often seen as antithetical to violence: violence is outburst that comes when the rational order of language fails. In fact, however, questions of language, and especially of speech, surface in every aspect of thinking about violence. Speech is a medium within which violence is performed, and is part of the modern machinery of war. It is also a medium through which systems of oppression and subordination are articulated and registered by groups and individuals, socially and psychically. Violence relies on speech for its justification, rationalization, and sustenance. At the same time, the rawness of violence challenges our fundamental faith in the representational and expressive capacities of language, in both destructive and creative ways. This intensive reading seminar explores the relation between speech and violence through scholarly and literary texts from a variety of humanistic fields and traditions.

Instructor(s): Itamar Francez Terms Offered: Winter. Winter 2021 Equivalent Course(s): LING 23750

## LING 33850. Sociolinguistic Typology. 100 Units.

Course Description TBD

Instructor(s): Jessica Kantarovich Terms Offered: Winter. Winter 2021 Equivalent Course(s): LING 23850

# LING 35100. Old Church Slavonic. 100 Units.

This course is an introduction to the language of the oldest Slavic texts. It begins with a brief historical overview of the relationship of Old Church Slavonic to Common Slavic and the other Slavic languages. This is followed by a short outline of Old Church Slavonic inflectional morphology. The remainder of the course is spent in the reading and grammatical analysis of original texts in Cyrillic or Cyrillic transcription of the original Glagolitic. Equivalent Course(s): REES 33115, REES 23115, MDVL 25100, LING 23115

## LING 38355. A Linguistic Introduction to Swahili I. 100 Units.

Spoken in ten countries of Eastern and Central Africa, Swahili has more speakers than any other language in the Bantu family, a group of more than 400 languages most prevalent in sub-equatorial Africa. Based on Swahili Grammar and Workbook, this course helps the students master key areas of the Swahili language in a fast yet enjoyable pace. Topics include sound and intonation patterns, noun class agreements, verb moods, and sentence structures. Additionally, this course provides important listening and expressive reading skills. For advanced students, historical interpretations are offered for exceptional patterns observed in Swahili, in relation with other Bantu languages. This is a general introduction course with no specific prerequisites.

Instructor(s): Fidèle Mpiranya Terms Offered: Winter Equivalent Course(s): LING 28355

Equivalent Course(s). Envo 20000

# LING 38356. Linguistic Introduction to Swahili II. 100 Units.

Based on Swahili Grammar and Workbook, this course is a continuation of Linguistic Introduction to Swahili I. It addresses complex issues related to grammatical agreement, verb moods, noun and verb derivation, non-typical adjectives and adverbs, double object constructions, subordinate / coordinated clause constructions, and dialectal variation. Additionally, this course provides important listening and expressive reading skills. For advanced students, historical interpretations are offered for exceptional patterns observed in Swahili, in relation with other Bantu languages. This course allows fulfilling the non-Indo-European language requirement.

Instructor(s): Fidele Mpiranya Terms Offered: Spring Equivalent Course(s): LING 28356

## LING 38600. Computational Linguistics. 100 Units.

This course introduces the problems of computational linguistics and the techniques used to deal with them, focusing primarily on probabilistic models and techniques. Topics are drawn primarily from phonology, morphology, and syntax. Special topics include automatic learning of grammatical structure and the treatment of languages other than English. Instructor(s): J. Goldsmith Terms Offered: Spring

Prerequisite(s): CMSC 12200, 15200 or 16200, or by consent

Equivalent Course(s): CMSC 35050, DIGS 30013

## LING 38620. Computational Linguistics II. 100 Units.

This is the second in a two-course sequence providing an introduction to topics at the intersection of computation and language, oriented toward linguists and cognitive scientists. In this quarter we will cover more advanced topics in cognitive/linguistic modeling and natural language processing (NLP), applying more complex programming and mathematical foundations. Our goal in this quarter is for students to leave the course able to implement advanced models and conduct novel research in cognitive/linguistic modeling and NLP.

Instructor(s): Allyson Ettinger Terms Offered: Winter

Prerequisite(s): Computational Linguistics I or permission of instructor

Equivalent Course(s): CMSC 35620, LING 28620, CMSC 25620

## LING 38951. The Development of Communicative Competence. 100 Units.

This course examines the emergence of communicative skills in humans. We will focus on how children glean information about language structure and language use from their home environments. We will also discuss the proposed cognitive and evolutionary roots of communicative behaviors, with a focus on current gaps in our knowledge and possible pathways forward. The course will consider these issues from multiple perspectives including linguistics, psychology, and linguistic anthropology. We will also briefly cover a range of methods associated with these different areas of study. It is expected that, by the end of the course, you should be able to think and write critically about how human communication and human language are intertwined in both adults and children.

Instructor(s): M. Casillas Terms Offered: Spring

Note(s): UG: B, C, M; Grad: 5

Equivalent Course(s): CHDV 38950, PSYC 38960, EDSO 38950

# LING 40301. Field Methods I. 100 Units.

The field methods course is a two-quarter course, taken by graduate students and advanced undergraduates. (Students may elect to take the course more than once.) This course is devoted to the elicitation, transcription, organization, and analysis of linguistic data from a native speaker of a language not commonly studied. Students will also gain practical experience in the use of fieldwork equipment. Language chosen may vary from year to year. Instructor(s): Natalia Bermudez Terms Offered: Autumn

## LING 40302. Field Methods II. 100 Units.

The field methods course is a two-quarter course, taken by graduate students and advanced undergraduates. (Students may elect to take the course more than once.) This course is devoted to the elicitation, transcription, organization, and analysis of linguistic data from a native speaker of a language not commonly studied. Students will also gain practical experience in the use of fieldwork equipment. Language chosen may vary from year to year. Instructor(s): Natalia Bermudez Terms Offered: Winter

LING 40310. Experimental Methods. 100 Units.

This course will cover the basic methods for experimental studies, including experimental design, data collection and statistical analysis. To demonstrate different design and analysis tools, we will look at data set from different types of studies, including self-paced reading, acceptability judgment, eye tracking, ERP, etc. Students will also gain hands-on experience on different paradigms.

Instructor(s): Monica Do Terms Offered: Winter

## LING 40311. Experimental Methods 2. 100 Units.

This course will cover the basic methods for experimental studies, including experimental design, data collection and statistical analysis. To demonstrate different design and analysis tools, we will look at data set from different types of studies, including self-paced reading, acceptability judgment, eye tracking, ERP, etc. Students will also gain hands-on experience on different paradigms.

# LING 40312. Advanced Experimental Methods. 100 Units.

The Advanced Experimental Methods class provides comprehensive training on specific experimental paradigms/methods in language science research. In the current quarter we will focus on the EEG methods. Students will develop practical skills by carrying out a project, learning about the experimental design, data collection and data analysis procedures. In addition to the methodology training, we will also read and discuss how EEG is applied to address theoretical and empirical questions in the domain of language and cognition. Prior to this class, students should have taken the graduate level Experimental Methods class or the equivalent.

Instructor(s): Ming Xiang Terms Offered: Winter

# LING 41920. The Evolution of Language. 100 Units.

How did language emerge in the phylogeny of mankind? Was its evolution saltatory or gradual? Did it start late or early and then proceed in a protracted way? Was the emergence monogenetic or polygenetic? What were the ecological prerequisites for the evolution, with the direct ecology situated in the hominine species itself, and when did the prerequisites obtain? Did there ever emerge a language organ or is this a post-facto construct that can be interpreted as a consequence of the emergence of language itself? What function did language evolve to serve, to enhance thought processes or to facilitate rich communication? Are there modern 'fossils' in the animal kingdom that can inform our scholarship on the subject matter? What does paleontology suggest? We will review some of the recent and older literature on these questions and more. Instructor(s): Salikoko Mufweme Terms Offered: Winter

Equivalent Course(s): CHDV 21920, CHSS 41920, CHDV 41920, EVOL 41920, ANTH 47305, LING 21920, PSYC 41920

## LING 46000. Seminar: Syntax. 100 Units.

This seminar will deal with cross-linguistic variation in agreement phenomena, where the features of an argument are tracked by some other element(s) in the clause (e.g. the verb). In particular, we will focus on the kind of factors that shape agreement patterns across languages. We will also consider more typologically unusual agreement phenomena such as hierarchy effects, closest conjunct agreement, non-canonical agreement targets and switch reference. The central goal is to understand how variation in the realization of agreement can shape our assumptions about the core syntactic operation, Agree.

Instructor(s): Andrew Murphy (Autumn), Erik Zyman (Winter), STAFF (Spring) Terms Offered: Autumn Spring Winter Prerequisite(s): Graduate student in Linguistics of consent of instructor Note(s): This course has a different topic each quarter it is offered.

## LING 48000. Linguistics Pedagogy. 100 Units.

This course deals with a variety of topics specific to Linguistic Pedagogy. Instructor(s): Amy Dahlstrom Terms Offered: Autumn Spring Winter

# LING 57727. LingAnthSem: Voiced Revelations on 'Fieldwork' on Languages and Cultures. 100 Units.

The recent publication (2019) and prominent popular reviews of Don Kulick's A Death in the Rainforest is at the leading edge of a long and distinguished line of publishing 'the straight dope' on what it is like to engage in systematic empirical study of languages, particularly as denotational structures, and of cultures, particularly as the frameworks of value for the experiences in the field that envelop 'natives' and the researcher. We take up the problem of how - and for whom - to 'voice' a kind of informal and revelatory retrospection of the fieldwork experience, using as examples writings by Bronislaw Malinowski, Hortense Powdermaker, Claude Lévi-Strauss, Margaret Mead, Robert M. W. Dixon, Don Kulick, and others - especially those suggested by members of the seminar.

Instructor(s): Michael Silverstein Terms Offered: Autumn. Autumn 2019 Equivalent Course(s): ANTH 57727



# Department of Music

## Chair

Berthold Hoeckner

## Professors

- Philip V. Bohlman
- Thomas Christensen
- Martha Feldman
- Berthold Hoeckner
- Robert L. Kendrick
- Anne Walters Robertson
- Augusta Read Thomas
- Lawrence Zbikowski

Associate Professors

- Travis A. Jackson
- Steven Rings
- Seth Brodsky
- Jennifer Iverson

# Assistant Professors

- Jessica Baker
- Anthony Cheung
- Sam Pluta

# Senior Lecturers

- James Kallembach
- Barbara Schubert

## Lecturers

- Olga Sanchez-Kisielewska
- Claire Longendyke

# Emeritus Faculty

- Easley R. Blackwood
- Shulamit Ran
- Don Randel
- Marta Ptaszynska

# Programs of Study

The Department of Music at the University of Chicago offers the degree of Doctor of Philosophy in three areas: composition, ethnomusicology and the history and theory of music.

The program in composition is designed to develop students' creative and technical abilities at writing new music. Students take individual composition lessons with faculty members, often studying with more than one faculty member in the course of their residence. Students also receive training in a wide variety of related areas and skills, including score reading and conducting, orchestration, musical analysis, twentieth century styles, historical periods and computer music. A portion of this training will lead to the development of a minor field in ethnomusicology, musicology, theory and analysis or research in computer music. There is a weekly seminar for all of the students in the composition program, designed to broaden the perspectives and address the problems of aspiring composers.

The program in ethnomusicology prepares students to carry out scholarship and writing about the place of music in various cultures. Students receive grounding in cultural theory, anthropology, ethnographic methods, problems in crosscultural musical analysis, and a variety of world and popular musics. They also conduct fieldwork on some of these musics. The program is interdisciplinary, drawing upon course offerings in music, anthropology and a variety of area studies.

The program in music history and theory prepares students to carry out various kinds of scholarship and writing about music, especially (but not solely) in traditions of European and American repertories. Students may emphasize either the historical or theoretical side of scholarship, according to their interests, and may also choose to pursue a minor field in composition. Students emphasizing music history typically concentrate on varieties of musicology that include cultural

history, textual criticism, stylistic studies, institutional history, hermeneutics and critical theory. Students emphasizing music theory typically concentrate on detailed analysis of individual works, clusters of works (by genre or composer, for example), theoretical systems and the history of theory. Most students who complete the Ph.D. in music history and theory seek academic employment, but others have gone on to work in fields such as publishing, operatic production, and commercial editing.

The Degree of Master of Arts

Students seeking a master's degree should apply to the Master of Arts Program in the Humanities (MAPH), a threequarter program of interdisciplinary study. MAPH students often take classes with students in the Ph.D. programs. Further details about the MAPH program are available at http://maph.uchicago.edu/

## Financial Aid

PhD students who matriculate in Summer 2020 and after will be guaranteed to have funding support from the University of Chicago, external sources, or a combination of the two for the duration of their program to include the following:

# Full tuition coverage

# Annual stipend # Fully paid individual annual premiums for UChicago's student health insurance (U-SHIP, the University Student Health

# Fully paid fild

Insurance Plan) The goal of the University's commitment to ensuring that students are supported is to allow students to prioritize

their studies and prepare for rewarding careers. We expect students to remain in good academic standing and to be making progress toward completing degree requirements. Students in the Division of the Humanities who entered their PhD program in Summer 2016 or later, and who are still

errolled in 2022-2023 will be fully incorporated into this new funding model, and will receive at least the guaranteed stipend level (subject to applicable taxes), full tuition coverage, and fully paid health insurance premiums for the duration of their program. Students are expected to remain in good academic standing.

Students who matriculated before Summer 2016 will receive at least the funding they were offered at the time of admission and may be eligible for additional funding, such as dissertation completion fellowships. Over the past several years, the Division of the Humanities has increased investments in funding to support students in degree completion.

Additional fellowships and awards are available to support language study, conference travel, and research travel.

Pedagogical training is a required component of doctoral education, and University resources can help students acquire the skills and experiences they need to feel at ease in the classroom, whether leading a discussion section, lecturing in the Humanities Common Core, or teaching a course of their own design.

#### Courses

The following provides a general outline of educational opportunities and degree requirements in the programs, but in no way replaces the detailed information given to all prospective students and enrolled students in the department. Up to date information about academic programs and courses is available on the website of the Music Department at http://music.uchicago.edu (http://music.uchicago.edu/).

During the first two years of study students take a number of required offerings (numbered between 30000 and 39900) including analysis courses, proseminars in historical periods and in ethnomusicology, courses on particular skills and individual composition lessons, depending on their programs of study. At the same time they take seminars (numbered above 41000), which tend to be more specialized and more advanced. About half of a student's schedule consists of electives, which may include non-required courses in the department, courses given outside the department and reading courses (i.e. independent studies).

Students entering the program without a master's degree in music from another institution take seventeen courses during the first two years of registration (before taking comprehensive exams). Those entering with a master's degree from another institution normally take nine courses in the first year of registration (before taking comprehensive exams). Composers entering without a master's degree take twelve courses in their first two years, and those with a master's will take nine courses in their first year. All composers take three years of regularly scheduled lessons, followed by meetings with their advisors.In addition to courses and other requirements (listed below), students who wish to obtain an M.A. must submit two seminar papers, or a composition of at least eight minutes, for approval by the faculty.

During the second two years of study, students in the scholarly programs are required to take three seminars, and students in composition are expected to develop a minor field of four courses. Standard minors for composition students include ethnomusicology, musicology, theory and analysis, or computer music research. After the comprehensive exams, students fulfill remaining requirements and begin work on the dissertation (see below).

Students entering their program of study without a master's degree in music can expect to complete their course work in three or four years. Those entering with a master's can expect to complete their course work in two or three years.

# Comprehensive Examinations

Students ordinarily take comprehensive exams (https://lucian.uchicago.edu/blogs/musiccurriculum/ #Overview\_Exams\_Comprehensive\_Examinations) just prior to the beginning of the third year in the program. Analysis exams are typically offered earlier in the summer, at the conclusion of the spring term in June. Students entering with a master's degree in music from another institution have the option of taking their exams at the beginning of their second year.

Students in composition take three comprehensive examinations:

- The composition of a work based on a set of given guidelines
- An oral examination on six compositions from the repertory
- A close analysis of a single work or movement

Students in ethnomusicology take examinations distributed over four components:

- Conceptual Foundations: essays covering broad issues of theoretical importance to ethnomusicology and musicology.
- Cultural Areas: two sets of essays demonstrating knowledge of two world musical cultural areas
- A Repertory Exam of four items, drawn from a list of sixteen (ten recorded, six notated)
- A close analysis of a musical work, selected by faculty prior to administration of the examination from three
  options:
  - a. An ethnomusicological example (which may involve transcription from a recording, analysis of a previous transcription, or some combination of these)
  - b. A tonal Western example
  - c. An atonal Western example

Students in history and theory take examinations distributed over four components (within some distribution guidelines):

- The identification of musical scores or excerpts drawn from European traditions of the 9th to the 21st centuries. Students pursuing a minor field in composition may substitute a two-hour oral examination on musical repertory
- History concentrators will take two sets of essays on the history of European traditions, corresponding to the four
  proseminars in music history (Music 32500, 32600, 32700, and 32800). Theory concentrators will take two sets of
  essays: a history set on music before or after 1800, and a set of essays in the history of music theory
- A close analysis of a single work or movement, to be selected from tonal analysis or atonal analysis
- One further set of essays, to be drawn from the following:
  - a set of essays in Conceptual Foundations of Musical Scholarship (https://lucian.uchicago.edu/blogs/ musiccurriculum/#Ethno\_conceptual\_foundations)
  - a further set of essays in History (for theorists) or in the History of Music Theory (for historians)
  - a further analysis exam (tonal, atonal, or ethnomusicological)
  - an ethnomusicological cultural area (https://lucian.uchicago.edu/blogs/musiccurriculum/ #Ethno\_cultural\_areas)

While coursework helps prepare students for comprehensive exams, students are expected to be enterprising in their efforts to determine both areas of weakness that they need to work on, and ways to synthesize and interrelate knowledge about history, repertory, theory, and so forth. Students should expect to spend an extended period of time engaged in intensive individual study in preparation for comprehensive exams, particularly during the summer before taking them.

## Special Field Examination/Dissertation Proposal

After having passed the comprehensive exams, students in music history and theory and in ethnomusicology also take a two-part oral exam at some time during the third or fourth year. For students in ethnomusicology, the first part of the oral tests the student's knowledge of, and ability for, synthetic thought within a selected area of world music. For all students, the exam is a defense of the dissertation prospectus, demonstrating the propriety and feasibility of the topic and the student's knowledge of the existing literature about it. Normally students take this exam in the third or fourth year. The exam is administered by the student's dissertation committee (often including a person from outside the department), with additional faculty members sometimes attending as well.

# Dissertation

For students in music history and theory and in ethnomusicology the dissertation for the Ph.D. consists of a book length study that makes an original contribution to research and thought. Students in composition must complete a large scale composition that shows professional competence, which should be completed and defended by the end of the fourth year. All students are required to defend the dissertation before receiving the degree.

# Language Examinations

Language Examinations (https://lucian.uchicago.edu/blogs/musiccurriculum/ #Overview\_Exams\_Language\_Examinations) are administered by the Language Center, and are focused on reading comprehension. In the case of languages not offered by the Language Center, the Department will make arrangement for a written translation exam. Specific details about language requirements are listed in the curriculum for each area of study.

## Musicianship Examinations

Examinations in practical musicianship skills (https://lucian.uchicago.edu/blogs/musiccurriculum/ #Overview\_Exams\_Musicianship\_Examinations) are administered by the Department of Music. These include examinations in basic musicianship skills and advanced musicianship skills. Examinations in basic musicianship include musical dictation, sight singing, and sight reading at the piano or another instrument in the Western musical tradition. Advanced musicianship skills include three skills to be realized at the piano (for students with advanced keyboard skills) or realized in written form (for students with no advanced keyboard skills): figured bass, reading of open vocal scores in old clefs and orchestral score reading (with a 24-hour preparation period). Other advanced musicianship skills are atonal dictation, transcription of music from oral or improvisatory traditions, improvisation in an improvisatory tradition, and playing in a University ensemble for at least one year concluding with a public concert. Students may petition to play in a recognized performing group other than official University ensembles. Students may also petition to fulfill the ensemble requirement through a solo performance in a university concert.

The number and kind of musicianship examinations for composition, ethnomusicology, history, and theory vary according to the respective programs as specified in the department's Graduate Curriculum (https://lucian.uchicago.edu/blogs/musiccurriculum/#Overview\_Exams\_Musicianship\_Examinations). Musicianship examinations are given during each of the three quarters. There is no limit to the number of examinations a student may take at a single sitting, and no limit to the number of times that a student may retake a musicianship examination. The Department offers free, informal, non-credit instruction in these skills. Instruction will be offered on an individual basis. The Department is not obligated to offer instruction in the area chosen by the student.

All departmental master's degrees require successful completion of two musicianship examinations, except composition, which requires successful completion of three.

#### Colloquium

The Colloquium is a series of lectures followed by discussion and normally given by speakers from other institutions who are specially invited by the Music Department to share their recent research or compositions with students and faculty. Attendance at a total of six quarters of colloquium is required, and students may register for colloquium in any quarter. Students must attend at least half of the lectures in a given term to fulfill the colloquium requirement for that term.

#### Graduate Teaching

Students are trained to become scholars through coursework, reading lists, qualifying exams, writing a dissertation, and above all through advising and mentoring. Similarly, students are trained to become teachers through pedagogical training and corresponding teaching assignments to prepare them for future careers and to make them competitive on the job market. Within this pedagogical training plan, there exist a number of opportunities for teaching during students' graduate careers. The various teaching opportunities range from assistantships to individual course assignments for which students have virtually full responsibility. The kinds of courses taught or assisted by graduate students include those in history, appreciation, theory, ear training, and world music. A student's taching experience typically will be structured progressively, e.g. beginning with Writing Internships and Teaching Assistantships and leading to a Graduate Student Lectureship in the student's discipline and/or in the College Core Curriculum.

In addition to these assignments, students may be nominated for Stuart Tave Teaching Fellowships in the Humanities Collegiate Division, which allow advanced graduate students in the humanities to teach upper level undergraduate courses in their own areas of research.

## Performing Activities

Students are expected to be able to perform creditably on some instrument or to sing, and candidates for the degree are encouraged to participate in one or more of the performance organizations on campus supported by the Department of Music. These include the University Symphony Orchestra, University Chamber Orchestra, University Wind Ensemble, University Chorus, Women's Ensemble, Motet Choir, Rockefeller Chapel Choir, Percussion Ensemble, Chamber Music, Early Music Ensemble, Jazz Ensemble, Middle Eastern Music Ensemble, and South Asian Music Ensemble. The Piano Program and the Vocal Studies Program offer intensive study in those areas with private instruction, master classes and quarterly performance opportunities.

#### Application

Applicants to the programs in music history and theory and in ethnomusicology will be asked to submit two papers as samples of their previous works in addition to the usual application forms, transcripts, letters of recommendation, and GRE scores. In addition to these materials, applicants in composition will be asked to submit scores, preferably three, and recordings if available, digitally or in hard copy.

In addition to their scholastic skills, students need at least a modicum of proficiency in fundamental musical skills in order to succeed in the program. It is expected that entering students have competence in playing a musical instrument or singing, as well as possess basic skills in ear training and music theory.

Prospective applicants seeking more detailed information about the course requirements, exams, etc. than is given here should refer to the Graduate Curriculum.

Further information about the various aspects of the graduate program, such as course descriptions and the Graduate Curriculum (https://lucian.uchicago.edu/blogs/musiccurriculum/#Overview), can also be obtained from the Department of Music's home page on the World Wide Web, http://music.uchicago.edu. Students interested in the program can apply online.

The application process for admission and financial aid for all graduate programs in Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at http://humanities.uchicago.edu/students/admissions/).

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.



# Department of Near Eastern Languages and Civilizations

http://nelc.uchicago.edu/

Chair

Franklin D. Lewis

Professors

- Orit Bashkin
- Fred M. Donner
- Cornell Fleischer
- Janet H. Johnson, Oriental Institute
- Hakan Karateke
- Dennis G. Pardee
- Robert K. Ritner, Oriental Institute
- Tahera Qutbuddin
- Martha T. Roth, Oriental Institute
- David Schloen, Oriental Institute
- Gil Stein, Oriental Institute
- Theo P. van den Hout, Oriental Institute
- Christopher Woods, Oriental Institute
- John E. Woods, History

Associate Professors

- Ahmed El Shamsy
- Petra Goedegebuure, Oriental Institute
- Rebecca Hasselbach, Oriental Institute
- Ghenwa Hayek
- Nadine Moeller, Oriental Institute
- Brian Muhs, Oriental Institute
- Susanne Paulus, Oriental Institute
- Richard Payne, History
- Hervé Reculeau, Oriental Institute
- Na'ama Rokem
- A. Holly Shissler
- Sofía Torallas Tovar, Classics

Assistant Professors

- James Osborne, Oriental Institute
- Johh Z. Wee, Oriental Institute

Senior Lecturers

- Ariela Almog
- Noha Forster

Instructional Professors

- Osama Abu-Eledam
- Hripsime Haroutunian
- Kay Heikkinen

Associate Instructional Professors

- Kagan Arik
- Stuart Creason
- Saeed Ghahremani

Lecturers

- Helga Anetshofer-Karateke
- Aidan Kaplan
- Paul Walker

Research Associates (Associate Professors)

- W. Raymond Johnson, Oriental Institute
- Donald S. Whitcomb, Oriental Institute

Emeritus Faculty

- Robert D. Biggs, Oriental Institute
- John A. Brinkman, Oriental Institute
- Robert Dankoff
- Peter F. Dorman, Oriental Institute
- Walter T. Farber, Oriental Institute
- McGuire Gibson, Oriental Institute
- Gene B. Gragg, Oriental Institute
- Norman Golb
- Harry A. Hoffner, Oriental Institute
- Wadad Kadi
- John R. Perry
- Jaroslav Stetkevych
- Matthew W. Stolper, Oriental Institute
- William Sumner, Oriental Institute
- Edward F. Wente, Oriental Institute
- K. Aslihan Yener, Oriental Institute

# The Department

The work of the department encompasses the ancient civilizations of the Near East and the Islamic civilizations of the Middle East, including Egypt and North Africa, and the history, languages, and literatures of the modern Middle East.

The fields of study in which Ph.D. programs are currently offered are, in the Ancient Section: Ancient Near Eastern History, Comparative Semitics, Cuneiform Studies (Assyriology, Hittitology, Sumerology), Egyptology, Hebrew Bible and the Ancient Near East, Near Eastern Art and Archaeology (Anatolian, Egyptian, Iranian, Islamic, Mesopotamian, Syro-Palestinian), and Northwest Semitic Philology; and in the Medieval and Modern Section: Arabic Language and Literature, Islamic History and Civilization, Islamic Thought, Medieval Judaica and Judeo- Arabic, Modern Hebrew Language and Literature, Persian Language and Literature, and Ottoman and Turkish Studies. The department also has a joint program with Linguistics and offers courses in Armenian and Central Asian studies in collaboration with other departments at the University.

The department has two main objectives. First, it strives to provide the specific course work and training needed for its students to develop into outstanding scholars in their chosen fields. Second, it offers more general courses that provide its students a broader background in areas outside their specific fields while presenting students in other departments the opportunity to incorporate relevant Middle Eastern material into their own studies. The department also publishes the *Journal of Near Eastern Studies*, one of the leading academic journals in ancient Near Eastern and Islamic studies.

## The Oriental Institute

The department is associated with the Oriental Institute (https://oi.uchicago.edu/), a research institute dedicated to the study of the origin and development of civilization in the ancient Near East. The Institute maintains several expeditions in the field, and research projects are carried on in its headquarters at the University. Its research archives, manuscript collection, documents from Oriental Institute excavations, and similar materials are resources for the students in the department. The department's office is housed in the Oriental Institute building, and many of its members belong to the faculty of the Oriental Institute.

## The Center for Middle Eastern Studies

The department is also associated with the Center for Middle Eastern Studies (https://cmes.uchicago.edu/), which offers a master's degree in Middle Eastern studies and coordinates activities at the University dealing with the Middle East in the Islamic and modern periods. Many members of the department faculty are also members of the Center's executive committee; and the workshops, lectures, language circles, and similar activities of the Center are, like those of the Oriental Institute, a resource for the students in the department.

### The Degree of Doctor of Philosophy

Students with an undergraduate degree may apply directly to the department's Ph.D. program; a master's degree in a related field is not prerequisite. The department does not admit students for a terminal M.A. degree, although work done in the first two years of the Ph.D. program qualifies students to receive an M.A. degree. This interim M.A. normally requires the completion of 18 courses, of which 15 must be taken for a quality grade while three may be taken on a pass/fail basis. All students must high pass one of the two required modern research language reading exams (typically French and German) before the beginning of their second year and complete an M.A. thesis in the second year.

At the end of the second year, all students are reviewed and a determination made as to whether they will be allowed to continue in the Ph.D. program. Students who do continue build upon the work used for the M.A. degree; normally the completion of additional 9 courses is required, depending on the field, before embarking upon research for the doctoral dissertation. Exact requirements vary by field, but all students must high pass their second modern research language reading exam before the beginning of their third year and pass comprehensive exams, usually in their fourth year. A dissertation proposal of original research to be undertaken is presented to the faculty at a public hearing; acceptance allows the student to be admitted to candidacy and to continue the research that will lead to the completed dissertation. A formal dissertation defense is required before the Ph.D. degree is awarded. For more information, please consult the NELC Rules & Requirements, which are posted to the departmental wiki. (https://wiki.uchicago.edu/x/-40zCg/)

Because the department believes that firsthand knowledge and experience of the Middle East are an essential part of a student's training, advanced students are encouraged to apply for grants to support study in a Middle Eastern country, whether for language acquisition, archaeological field work, or dissertation research.

#### Inquiries

Specific information about the department and its programs may be obtained from our website (http:// nelc.uchicago.edu/) or by e-mail (ne-lc@uchicago.edu). Within the framework outlined above, individual requirements are established for each student in consultation with the faculty adviser and the section counselor.

## Application

The application process for admission and financial aid for all graduate programs in the Division of the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department-specific information is available online at http://humanities.uchicago.edu/students/ admissions (http://humanities.uchicago.edu/students/).

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

## Courses

Modern Languages: Language acquisition is taught at the elementary and intermediate levels in modern Arabic, Armenian, Hebrew, Kazakh, Persian, Turkish, and Uzbek with advanced level courses in Arabic, Hebrew, and Turkish. A wide variety of literature courses are taught in the various languages.

Ancient Languages: Courses are offered in the fundamentals of Akkadian, Ancient Anatolian Languages, Egyptian, Ge'ez, Classical Hebrew, Sumerian, and Ugaritic, while more advanced courses cover specific genres of ancient texts dealing with religion, medicine, law, government, history, etc.

Near Eastern Art and Archaeology: Courses in Anatolian, Egyptian, Islamic, Mesopotamian, and Syro-Palestinian art and archaeology offer grounding in site archaeology and the material culture of the ancient Near East and include instruction on archaeological method and theory, landscape archaeology, computer applications, etc.

Near Eastern History and Civilization: A wide variety of courses cover the history, religion, law, literature (in translation), culture, and thought of the many ancient and modern civilizations of this region.

Please see the University's (http://collegecatalog.uchicago.edu/graduate/ departmentofneareasternlanguagesandcivilizations/%20http://registrar.uchicago.edu/classes/)*Class Search* for the most upto-date and specific course offerings in a given quarter.

#### Akkadian Courses

#### AKKD 30350. Nuzi: Documents from a Late Bronze Age Town. 100 Units.

More than 6000 cuneiform documents from a single Late Bronze Age site, ancient Nuzi, dating to a period of only about 150 years, yield unparalleled insights into everyday life in the ancient world. This course will use these resources to explore a series of legal and social phenomena, both private and public, including family/status (marriage, divorce, inheritance, adoption), judicial process (trials, lawsuits), public corruption, political events, and more.

Instructor(s): Martha Roth Terms Offered: Spring

Prerequisite(s): 2 years Akkadian or permission of instructor

Equivalent Course(s): AKKD 20352

## AKKD 30820. Readings in the letters from Tell el-Amarna. 100 Units.

In this course, we will read Akkadian letters from the correspondence found at Tell el-Amarna, Egypt, that date to the 14th century BCE. We will read letters from various locations, including Babyonia, Assyria, Mitanni and Hatti, although the main focus of the class will be on the letters sent from Canaan. In all these corpora we will look at features that mark the language as different from core Babylonian and that reveal substrate influence from the native languages of the scribes. Instructor(s): Rebecca Hasselbach-Andee Terms Offered: Winter

Prerequisite(s): Two years of Akkadian.

# AKKD 30900. Old Assyrian Letters and Documents. 100 Units.

This course introduces students to the Assyrian dialect of the early second millennium BCE, as witnessed in the archives of Assyrian merchants operating in the ancient city of Kaneš (modern Kültepe, Turkey). Students will read through a selection of letters, legal texts and administrative documents pertaining to the merchants' activities between Northern Mesopotamia and Anatolia. They will be exposed to the earliest known attestation of the Northern dialect of Akkadian, which differs sensibly from the contemporary Old Babylonian and later Standard Babylonian dialects that are introduced in elementary and intermediate Akkadian courses. Similarly, Old Assyrian cursive paleography has its own rules for sign shapes and values, with some marked differences with contemporary Old Babylonian. Knowledge of the Old Babylonian grammar and cursive cuneiform script are therefore required to take this course, and knowledge of Standard Babylonian and the associated scripts are highly recommended. Due to the restrictions in classroom availabilities imposed by the current pandemic, this course will be offered remotely via Zoom. Evaluation will be based on participation (30%), a midterm take-home exam (30%) and a final take-home exam (40%).

Instructor(s): Hervé Reculeau Terms Offered: Autumn

Prerequisite(s): Intermediate Akkadian (exceptions possible with instructor's consent).

Equivalent Course(s): AKKD 20900

## Ancient Anatolian Languages Courses

## AANL 30501. Lycian. 100 Units.

This course introduces the grammar and writing system of the Lycian language of the first millennium BC (ca. 500 to 300). After reading a series of tomb inscriptions, we venture into the larger historical inscriptions that include the Lycian-Greek-Aramaic trilingual of Xanthos.

Instructor(s): P. Goedegebuure Terms Offered: Spring Prerequisite(s): Elementary Hittite or consent from instructor Equivalent Course(s): AANL 20501, ANCM 30800

## Arabic Courses

## ARAB 30201-30202-30203. High Intermediate Modern Standard Arabic I-II-III.

This is a three course sequence in High Intermediate Modern Standard Arabic.

# ARAB 30201. High Intermediate Modern Standard Arabic-1. 100 Units.

High Intermediate Arabic, the modern track, provides students with a full academic year to activate the language and grammar studied in the first two years, while expanding their cultural and literary knowledge of the Arab world. This three-quarter sequence is taught in Arabic and focuses on all four language skills. The purpose of this sequence is conceived of functionally (what can students do) rather than with an eye to finishing a given textbook. It will have reached its objective if each student leaves with a clearly improved ability to produce oral and written Arabic in a variety of contexts (personal and professional correspondence, description, prescription, comparison narration, argumentation, etc.), to listen and understand spoken MSA, and to read a variety of texts (short stories, a novel, media writing, poetry, social media, opinion pieces, etc.) and a deepened understanding of the diversity of the Arab experience. An important component of the course is taking the learning outside the classroom: through visits to an Arab neighborhood, interviews of Arabs in Chicago, producing a play. Instructor(s): N. Forster Terms Offered: Autumn

Prerequisite(s): ARAB 20103 or equivalent

Note(s): Open to qualified undergraduates with consent of the instructor

## ARAB 30202. High Intermediate Modern Standard Arabic-2. 100 Units.

High Intermediate Standard Modern Arabic

Instructor(s): N. Forster Terms Offered: Winter

Prerequisite(s): ARAB 30201 or equivalent

#### ARAB 30203. High Intermediate Modern Standard Arabic-3. 100 Units.

In this class, we will read the iconic Arabic novel, Season of Migration to the North, by Sudanese writer, Tayeb Salih (1929-2009). Written in 1966, ten years after Sudan's official independence from Britain, the novel is one of a handful of truly masterful literary works in Arabic that address the postcolonial effects on the individual. More than a novel on Sudan, the story speaks to the universal traumas accompanying interactions between cultures when the power differential is huge. The class is for students who have high intermediate reading skills and want to solidify or improve them. In addition to a close reading of the novel, students will write essays and offer oral presentations on aspects of it. Listening skills will be tested against related materials (interviews with the author, documentary reports on the novel and its writer, etc.). Guest speakers and cultural outings are part of the class.

Instructor(s): N. Forster Terms Offered: Spring

Prerequisite(s): ARAB 30202 or equivalent

### ARAB 30301-30302-30303. High Intermediate Classical Arabic I-II-III.

This is a three-segment course offered in three quarters; Autumn, Winter and Spring. The main objective of the complete three segment is to develop strong pedagogical strategies in the four Arabic language skills to acquire proficiency in handling Arabic classical texts. By the end of the three quarters students should know the distinctive features of classical Arabic texts and the various genres and sources of such texts. They will build strong command on expanded grammatical features and structural rules governing classical texts of different variations. Students will be able to produce written documents reflecting reading comprehension, personal opinions and text critique. Students should be able to make oral presentation and conduct research using electronic resources as well as traditional classical sources. The class is conducted entirely in Arabic with occasional use of English in translation and explanation of complex cultural and linguistic issues.

## ARAB 30301. High Intermediate Classical Arabic-1. 100 Units.

This is a three-segment course offered in three quarters; Autumn, Winter and Spring. The main objective of the complete three segment is to develop strong pedagogical strategies in the four Arabic language skills to acquire proficiency in handling Arabic classical texts. By the end of the three quarters students should know the distinctive features of classical Arabic texts and the various genres and sources of such texts. They will build strong command on expanded grammatical features and structural rules governing classical texts of different variations. Students will be able to produce written documents reflecting reading comprehension, personal opinions and text critique. Students should be able to make oral presentation and conduct research using electronic resources as well as traditional classical sources. The class is conducted entirely in Arabic with occasional use of English in translation and explanation of complex cultural and linguistic issues. Prerequisite(s): ARAB 20103 or equivalent Instructor(s): K. Heikkinen Terms Offered: Autumn

Prerequisite(s): ARAB 20103 or equivalent

# ARAB 30302. High Intermediate Classical Arabic-2. 100 Units.

The main objective of the complete three-quarter segment is to develop strong pedagogical strategies in the four Arabic language skills to acquire proficiency in handling Arabic classical texts. By the end of the three quarters students should know the distinctive features of classical Arabic texts and the various genres and sources of such texts. They will build strong command on expanded grammatical features and structural rules governing classical texts of different variations. Students will be able to produce written documents reflecting reading comprehension, personal opinions and text critique. Students should be able to make oral presentation and conduct research using electronic resources as well as traditional classical sources. The class is conducted entirely in Arabic with occasional use of English in translation and explanation of complex cultural and linguistic issues."

Instructor(s): K. Heikkinen Terms Offered: Winter

Prerequisite(s): ARAB 30201 or equivalent

## ARAB 30303. High Intermediate Classical Arabic-III. 100 Units.

The main objective of the complete three-quarter segment is to develop strong pedagogical strategies in the four Arabic language skills to acquire proficiency in handling Arabic classical texts. By the end of the three quarters students should know the distinctive features of classical Arabic texts and the various genres and sources of such texts. They will build strong command on expanded grammatical features and structural rules governing classical texts of different variations. Students will be able to produce written documents reflecting reading comprehension, personal opinions and text critique. Students should be able to make oral presentation and conduct research using electronic resources as well as traditional classical sources. The class is conducted entirely in Arabic with occasional use of English in translation and explanation of complex cultural and linguistic issues. Instructor(s): K. Heikkinen Terms Offered: Spring

Prerequisite(s): ARAB 30302 or equivalent

#### ARAB 30390. Arabic in Social Context. 100 Units.

This is a course for the advanced student of Arabic, focusing on improving listening comprehension and instilling an awareness of the social associations accompanying different speech styles. Through intensive exposure to a variety of authentic oral texts (talk shows, songs, soap operas, films, news shows, ads, comedy skits, etc.), students will delve into current social and political issues, as well as become sensitive to code switching between MSA and colloquial (all the major dialects). Through these texts, we will examine the themes of diglossia and code-switching; gendered discourse; urban-rural differences; class differences; youth language. A heavily aural course, class activities will involve student presentations (group and solo), discussion groups, and a final oral presentation project.

Instructor(s): N. Forster Terms Offered: Winter

Prerequisite(s): Two Years of Arabic study or consent of instructor

Equivalent Course(s): ARAB 20390

#### ARAB 30588. Media Arabic. 100 Units.

Media Arabic is a course designed for the advanced student of Modern Standard Arabic. The course objective is to improve students' listening comprehension and writing skills. Students will advance toward this goal through listening to and reading a variety of authentic materials from Arabic Media (on politics, literature, economics, education, women, youth, etc.). Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): At least two years of Modern Standard Arabic Equivalent Course(s): ARAB 20588

# ARAB 30658. Narrating Conflict in Modern Arabic Literature. 100 Units.

This course is an exploration of conflict in the Arab world through literature, film and new media. In this course, we will discuss the influence of independence movements, wars, and revolts on Arabic literature: how do writers write about, or film, conflict? How does conflict affect language itself? How do these texts engage with issues of trauma and bearing witness? To answer these questions, we will look at a number of key moments of conflict in the Arab world, including the Arab-Israeli conflicts, the Algerian war of independence, the 2011 Egyptian revolution, the Lebanese and Iraq wars, and the ongoing war in Syria. Rather than follow a historical chronology of these events, we will read these texts thematically, beginning with texts that seek to present themselves as direct, sometimes eye-witness, accounts and then moving on to narratives that complicate the relationship between conflict and its narration.

Instructor(s): G. Hayek Terms Offered: Spring

Equivalent Course(s): NEHC 30658, NEHC 20658, ARAB 20658

# ARAB 40102. Advanced Arabic Syntax II. 100 Units.

This two-quarter sequence is an introduction to the classical Arabic language. It is useful for students whose research includes the reading of classical Arabic texts in varied fields such as literature, history, political science, theology and philosophy. In the class 1) rules of Arabic grammar are studied intensively, topic by topic; 2) parsing (i'rab) is an important component, with a view to understanding the structure of the language; 3) brief texts from different fields of classical Arabic are read focusing on their grammatical structure, and 4) some theory about the development of the grammatical genre is introduced, as are the basic features of prosody ('arud) and rhetoric (balagha).

Instructor(s): T. Qutbuddin Terms Offered: Spring

Prerequisite(s): ARAB 40101 or equivalent. This is the second part of a 2 quarter sequence; open to grads and undergrads

## ARAB 40200. Advanced Readings in Arabic. 100 Units.

Advanced Readings in Arabic

Instructor(s): Kay Heikkinen, Staff Terms Offered: Autumn

# ARAB 40388. Readings in Early Islamic Apocalyptic Literature. 100 Units.

The course explores the role of eschatological and apocalyptic ideas in the inception and early history of the Islamic community, through readings of relevant Arabic sources from the seventh through ninth centuries CE, and modern scholarship exploring these issues.

Instructor(s): Fred Donner Terms Offered: Spring Prerequisite(s): High Intermediate Arabic or equivalent.

# ARAB 49900. Reading and Research. 100 Units.

Reading and research in Arabic. Instructor(s): Staff Terms Offered: Spring Note(s): Select section from faculty list

Aramaic Courses

Armenian Courses

# Egyptian Courses

# EGPT 30120. Introduction to Demotic. 100 Units.

This course provides a basic introduction to the grammar, vocabulary, and orthographic styles of the Egyptian language phase and script used for administrative, literary and some religious and magical texts from the Late Period (664-332 BCE) through the Graeco-Roman Periods (332 BCE - 298 CE).

Instructor(s): Brian Muhs Terms Offered: Winter Prerequisite(s): EGPT 10101-10103 or equivalent Equivalent Course(s): ANCM 32100

# EGPT 30121. Demotic Texts. 100 Units.

Building on the basic grammar, vocabulary, and orthographic styles learned in EGPT 30120, this course focuses on the reading and analysis of various Demotic administrative, literary, religious and magical texts from the Late Period (664-332 BCE) through the Graeco-Roman Periods (332 BCE - 298 CE).

Instructor(s): Janet Johnson Terms Offered: Spring Prerequisite(s): EGPT 30120 or Consent of the Instructor

# EGPT 30446. Ptolemaic Hieroglyphs. 100 Units.

This advanced course examines grammar, scripts and texts typically called "Ptolemaic," but employed in formal, priestly inscriptions of both the Ptolemaic and Roman eras. Texts to be examined include, among others, synod decrees and inscriptions from Dendera, Philae, Edfu, and Esna. Instructor(s): Robert Ritner Terms Offered: Spring Prerequisite(s): Prior study of Middle Egyptian through Coptic

## EGPT 40480. Religious Texts. 100 Units.

This advanced course entails reading Egyptian religious and magical compositions from the Pyramid Texts through Coptic magical incantations, including diachronic study of funerary literature, hymns and ritual texts. Knowledge of all stages of Egyptian is recommended.

Terms Offered: Spring

Prerequisite(s): Prior study of Middle Egyptian through Coptic

# Courses

Ge'ez Courses

# Hebrew Courses

# HEBR 30501-30502-30503. Advanced Modern Hebrew I-II-III.

This course assumes that students have full mastery of the grammatical and lexical content at the intermediate level. However, there is a shift from a reliance on the cognitive approach to an emphasis on the expansion of various grammatical and vocabulary-related subjects. Students are introduced to sophisticated and more complex syntactic constructions, and instructed how to transform simple sentences into more complicated ones. The exercises address the creative effort on the part of the student, and the reading segments are longer and more challenging in both style and content. The language of the texts reflects the literary written medium rather than the more informal spoken style, which often dominates the introductory and intermediate texts.

# HEBR 30501. Advanced Modern Hebrew I. 100 Units.

This course assumes that students have full mastery of the grammatical and lexical content of the intermediate level (second year Hebrew or the placement exam are prerequisites). The main objective is literary fluency. The texts used in this course include both academic prose, as well as literature. Students are exposed to semantics and morphology in addition to advanced grammar. Requirements include a weekly class presentation, regular essay writing, two take-home exams, and several quizzes per quarter.

Instructor(s): Ari Almog Terms Offered: Autumn

Prerequisite(s): HEBR 20503 or equivalent

Equivalent Course(s): JWSC 25600

## HEBR 30502. Advanced Modern Hebrew-II. 100 Units.

This course assumes that students have full mastery of the grammatical and lexical content of the intermediate level (second year Hebrew or the placement exam are prerequisites). The main objective is literary fluency. The texts used in this course include both academic prose, as well as literature. Students are exposed to semantics and morphology in addition to advanced grammar. Requirements include a weekly class presentation, regular essay writing, two take-home exams, and several quizzes per quarter.

Instructor(s): Ari Almog Terms Offered: Winter Prerequisite(s): HEBR 30501 or consent of instructor Equivalent Course(s): JWSC 25700

# HEBR 30503. Advanced Modern Hebrew-III. 100 Units.

This course assumes that students have full mastery of the grammatical and lexical content of the intermediate level (second year Hebrew or the placement exam are prerequisites). The main objective is literary fluency. The texts used in this course include both academic prose, as well as literature. Students are exposed to semantics and morphology in addition to advanced grammar. Requirements include a weekly class presentation, regular essay writing, two take-home exams, and several quizzes per quarter.

Instructor(s): Ari Almog Terms Offered: Spring Prerequisite(s): HEBR 30502 or consent of instructor Equivalent Course(s): JWSC 25800

# Kazakh Courses

# KAZK 49900. Reading and Research. 100 Units.

Reading and Research Instructor(s): STAFF Terms Offered: Autumn Spring Winter Note(s): Select section from faculty list

KAZK 49901. Independent Study: Intermediate Kazakh. 100 Units.

## Independent Study: Intermediate Kazakh

Instructor(s): Kagan Arik Terms Offered: Autumn Spring Winter

Near Eastern Art and Archeology Courses

## NEAA 30006. Archaeology of the Ancient Near East VI: Egypt. 100 Units.

This sequence provides a thorough survey in lecture format of the art and archaeology of ancient Egypt from the late Predynastic era through the Roman period.

Instructor(s): STAFF Terms Offered: Autumn

Note(s): This sequence does not meet the general education requirements in civilization studies. Equivalent Course(s): NEAA 20006

# NEAA 30030. The Rise of the State in the Ancient Near East. 100 Units.

This course introduces the background and development of the first urbanized civilizations in the Near East in the period from 9000 to 2200 BC. In the first half of this course, we examine the archaeological evidence for the first domestication of plants and animals and the earliest village communities in the "fertile crescent" (i.e., the Levant, Anatolia, and Mesopotamia). The second half of this course focuses on the economic and social transformations that took place during the development from simple, village-based communities to the emergence of the urbanized civilizations of the Sumerians and their neighbors in the fourth and third millennia BC.

Instructor(s): G. Stein Terms Offered: Winter

Equivalent Course(s): NEAA 20030, ANTH 36715, ANTH 26715

# NEAA 30035. Introduction to Zooarchaeology. 100 Units.

This course provides undergraduate and graduate students with an introduction to the use of animal bones in archaeological research. Students will gain hands-on experience analyzing faunal remains from an archaeological site in the Near East. The class will address theoretical and methodological issues involved in the use of animal bones as a source of information about prehistoric societies. The course consists of lectures, laboratory sessions, and original research projects using collections of animal bone from archaeological excavations in southeast Turkey. Topics covered include: 1) identifying, ageing and sexing animal bones; 2) zooarchaeological sampling, measurement, quantification, and problems of taphonomy; 3) analysis of animal bone data; 4) reconstructing prehistoric hunting and pastoral economies, especially: animal domestication, hunting strategies, herding systems, seasonality, and pastoral production in complex societies.

Instructor(s): G. Stein Terms Offered: Spring

Equivalent Course(s): ANTH 28410, NEAA 20035, ANTH 38810

## NEAA 30091. Field Archaeology. 300 Units.

This course is for students that will be overseas participating in an Archaeological Field Project. Consent of instructor required.

Terms Offered: Autumn

# NEAA 30100. Archaeological Methods and Interpretations. 100 Units.

The first part of this course surveys the history of archaeology as a discipline and the methods used by archaeologists to obtain evidence about past human activity via excavations, surface surveys, and remote-sensing technologies; and also surveys the methods used to date, classify, and analyze various kinds of evidence after it has been obtained. The second half of the course surveys the main paradigms in social theory and examines the theoretical concepts and assumptions archaeologists have used to make sense of what they find.

Instructor(s): David Schloen Terms Offered: Winter

Equivalent Course(s): NEAA 20100

# NEAA 30330. The Neo-Hittite and Aramaean City-States. 100 Units.

This seminar explores the city-state system that arose in the eastern Mediterranean at the beginning of the Iron Age, ca. 1200 B.C.E. Most commonly referred to as "Syro-Hittite," these kingdoms thrived for roughly 500 years until their piecemeal destruction at the hands of the Assyrian Empire. We will examine models for how this city-state system arose following the collapse of the Late Bronze Age political economy, how statehood and social identity were enacted during the centuries of their greatest cultural expressions, and how and why their political structure and cultural patterns came to an end. Our sources will be contemporary inscriptions and the archaeological record of the region. Other topics will include religious practices, military history, and interregional connections with the Assyrian Empire, the Aegean, and Israel/Judah. Instructor(s): James Osborne Terms Offered: Spring

## NEAA 30501. Introduction to Islamic Archaeology. 100 Units.

This course is intended as a survey of the regions of the Islamic world from Arabia to North Africa, from Central Asia to the Gulf. The aim will be a comparative stratigraphy for the archaeological periods of the last millennium. A primary focus will be the consideration of the historical archaeology of the Islamic lands, the interaction of history and archaeology, and the study of patterns of cultural interaction over this region, which may also amplify understanding of ancient archaeological periods in the Near East.

Instructor(s): D. Whitcomb Terms Offered: Winter Equivalent Course(s): NEAA 20501, MDVL 20530

# NEAA 30522. Archaeology of Islamic Syria-Palestine. 100 Units.

This course is an exploration of the cultural patterns in the Levant from the late Byzantine period down to modern times, a span of some 1500 years. While the subject matter is archaeological sites of this period in Syria, Lebanon, Jordan, and Israel, the focus is on the role of medieval archaeology in amplifying the history of economic and social systems. It is this connective quality of Islamic archaeology that contributes to an understanding of the earlier history and archaeology of this region.

Instructor(s): D. Whitcomb Terms Offered: Spring Prerequisite(s): Introductory course in archaeology Equivalent Course(s): MDVL 20522, NEAA 20522

# NEAA 43221. Israel and Judah under Empire: Archaeology and History of the Assyrian and Babylonian Periods. 100 Units.

In the late 8th century BCE Israel, Judah and the other polities of the southern Levant came under Assyrian hegemony, and then under the Babylonian and Persian empires. The seminar will review the demographic and economic situation in the region before the arrival of the first empire in the late 8th century BCE, and the subsequent changes during the 7th-6th centuries BCE in an attempt to use the unparalleled data available from this region to (1) reconstruct life in the provinces and client kingdoms and (2) use the detailed information to learn about imperial encounters at large, and the impact of imperial control on the life of the peoples under its yoke.

Instructor(s): Avraham Faust Terms Offered: Spring Equivalent Course(s): BIBL 33221, HIJD 43221

# NEAA 49900. Reading and Research. 100 Units.

Independent study in Near Eastern Art and Archaeology. Instructor(s): STAFF Terms Offered: Autumn Spring Winter Note(s): Select section from faculty list

# Near Eastern History and Civilizations Courses

## NEHC 30019. Mesopotamian Law. 100 Units.

Ancient Mesopotamia--the home of the Sumerians, Babylonians, and Assyrians who wrote in cuneiform script on durable clay tablets--was the locus of many of history's firsts. No development, however, may be as important as the formations of legal systems and legal principles revealed in contracts, trial records, and law collections (codes), among which The Laws of Hammurabi (r. 1792-1750 BC) stands as most important for understanding the subsequent legal practice and thought of Mesopotamia's cultural heirs in the Middle East and Europe until today. This course will explore the rich source materials of the Laws and relevant judicial and administration documents (all in English translations) to investigate topics of legal, social, and economic practice, including family formation and dissolution, crime and punishment (sympathetic or talionic eye for an eye, pecuniary, corporal), and procedure (contracts, trials, ordeals).

Instructor(s): M. Roth Terms Offered: Winter

Equivalent Course(s): NEHC 20019, LLSO 20019, SIGN 26022

# NEHC 30027. Sources of the Pentateuch. 100 Units.

Seminar for hands-on experience in identifying, "separating," and interpreting sources within the Pentateuch (and Joshua) through varied examples.

Instructor(s): Simeon Chavel Terms Offered: Spring Prerequisite(s): Biblical Hebrew and Greek Equivalent Course(s): BIBL 55110

## NEHC 30030. Introduction to the Our'an. 100 Units.

This course introduces the historical context, thematic and literary features, major biblical figures, and exegetical literature on the Qur'an, with a focus on the early (8th-10th century CE) and medieval periods (11th - 15th century CE). We will read select English translations from the Qur'an and its commentators, accompanied by academic secondary literature that emphasize the Qur'an's literary structure, theological underpinnings, historical, geographical, social, political and cultural contexts in early and medieval Islamic civilization, and the role of the Qur'an as both a fixed and a living and dynamic text in Muslim devotional life.

Instructor(s): Yousef Casewit Terms Offered: Autumn

Prerequisite(s): Knowledge of Arabic is not a prerequisite, but general knowledge about Islam or an 'Introduction to Islam' course is highly recommended.

Equivalent Course(s): ISLM 30030, MDVL 10030, RLST 11030

## NEHC 30035. What is a Madrasa Education? 100 Units.

Although public education has almost completely eclipsed and replaced traditional educational systems throughout the Muslim world, madrasas continue to play a significant role in Muslim societies to this day. This course explores the complex, evolving, and often conflicting pedagogical models of learning in Islamic civilization from the medieval period up to the present. Three fundamental concerns guide our examination of the various modes of organization, acquisition, embodiment, and transference of knowledge in madrasa institutions: (1) Epistemology: What is knowledge (#ilm)? And what is an ##lim, or "traditional Muslim knower" expected know? (2) Pedagogy: How does an ##lim acquire, organize, transmit, and publish his/her #ilm? (3) Religious Authority: How is #ilm verified, authenticated, institutionalized, certificated, and mainstreamed in madrasa institutions? The sheer enormity of the subject and the variety of competing pedagogical models in the Muslim world belie a comprehensive survey. Our approach will thus be grounded in multidisciplinary research (history, ethnography, sociology, religious studies) and anchored in case studies. The readings covered in class will address questions of philosophy of education; the politics of knowledge; core texts studied in madrasas; day-to-day lived experience of students and teachers; how classical texts are taught.

Instructor(s): Yousef Casewit Terms Offered: Winter

Prerequisite(s): Basic knowledge of Arabic or another Islamic language is highly recommended, though not a formal prerequisite for this course.

Equivalent Course(s): ISLM 30035

# NEHC 30055. Topics in Medieval and Early Modern Historiography. 100 Units.

The course will take its start from combing the "Histories" and "Politics" sections, and their commentaries, and listings of the recently published Inventory of the Ottoman Palace Library of Sultan Bayezid II of 1502-1503 (Treasures of Knowledge: An Inventory of the Ottoman Palace Library (1502-1503/1503-1504), eds. G. Necipoglu, C. Kafadar, C.H. Fleischer, 2 vols., Brill 2019), to develop a map of the Arabic, Persian, and Turkish historiographical and political theoretical terrain that formed the foundation of the early modern Islamic understanding of history as science, and its mobilization in the interest of reestablishment of universalist sovereignty in the sixteenth century and beyond. It will then proceed to selected readings in original languages, selections to be determined by linguistic capacities and focus of participants.

Instructor(s): Cornell Fleischer Terms Offered: Autumn

Prerequisite(s): Consent of Instructor required, as well as good knowledge of Arabic and/or Ottoman Turkish - knowledge of Persian is also preferred.

# NEHC 30120. The History of Muslim Histories. 100 Units.

This course surveys Muslim history-writing in Arabic from its beginnings to the nineteenth century. Through reading the work of historians such as al-Baladhuri, al-Tabari, Miskawayh, Ibn 'Asakir, Ibn Khaldun, and al-Jabarti, we investigate different genres of historical writing and examine the various methodologies employed by Muslim historians.

Instructor(s): Ahmed El Shamsy Terms Offered: Winter

Prerequisite(s): 3 years of Arabic or the equivalent Equivalent Course(s): ISLM 31120, HIST 35706

Equivalent Course(s): ISLIM 51120, HIST 55706

# NEHC 30123. Islamic Doxography. 100 Units.

This course explores the Islamic tradition of doxography-the study of sectarian differences. We read works by al-Balkhi, (pseudo?)al-Jubba'i, al-Ash'ari, al-Nawbakhti, al-Shahrastani, and Ibn Hazm to understand what the genre of doxography consisted of, which methods its authors deployed, and how they envisioned the Muslim community and sectarian identities within it.

Instructor(s): Ahmed El Shamsy Terms Offered: Spring Prerequisite(s): 3 years of Arabic or the equivalent Equivalent Course(s): ISLM 31123

# NEHC 30201. Islamicate Civilization I: 600-950. 100 Units.

This course covers the rise and spread of Islam, the Islamic empire under the Umayyad and early Abbasid caliphs, and the emergence of regional Islamic states from Afghanistan and eastern Iran to North Africa and Spain. The main focus will be on political, economic and social history.

Instructor(s): Ahmed El Shamsy Terms Offered: Autumn

Note(s): The Islamicate Civilization sequence does not fulfill the General Ed requirements

Equivalent Course(s): NEHC 20201, MDVL 20201, HIST 35621, ISLM 30201, RLST 20201, HIST 15611

# NEHC 30202. Islamicate Civilization II: 950-1750. 100 Units.

This course, a continuation of Islamicate Civilization I, surveys intellectual, cultural, religious and political developments in the Islamic world from Andalusia to the South Asian sub-continent during the periods from ca. 950 to 1750. We trace the arrival and incorporation of the Steppe Peoples (Turks and Mongols) into the central Islamic lands; the splintering of the Abbasid Caliphate and the impact on political theory; the flowering of literature of Arabic, Turkic and Persian expression; the evolution of religious and legal scholarship and devotional life; transformations in the intellectual and philosophical traditions; the emergence of Shi`i states (Buyids and Fatimids); the Crusades and Mongol conquests; the Mamluks and Timurids, and the "gunpowder empires" of the Ottomans, Safavids, and Moghuls; the dynamics of gender and class relations; etc. This class partially fulfills the requirement for MA students in CMES, as well as for NELC majors and PhD students.

Instructor(s): Franklin Lewis Terms Offered: Winter

Prerequisite(s): Islamicate Civilization I (NEHC 20201) or Islamic Thought & Literature-1 (NEHC 20601), or the equivalent Note(s): The Islamicate Civilization sequence does not fulfill the General Ed requirements Equivalent Course(s): MDVL 20202, NEHC 20202, HIST 35622, ISLM 30202, RLST 20202, HIST 15612

# NEHC 30203. Islamicate Civilization III: 1750-Present. 100 Units.

This course covers the period from ca. 1750 to the present, focusing on Western military, economic, and ideological encroachment; the impact of such ideas as nationalism and liberalism; efforts at reform in the Islamic states; the emergence of the "modern" Middle East after World War I; the struggle for liberation from Western colonial and imperial control; the Middle Eastern states in the cold war era; and local and regional conflicts.

Instructor(s): Holly Shissler Terms Offered: Spring

Prerequisite(s): Islamicate Civilization II (NEHC 20202) or Islamic Thought & Literature-2 (NEHC 20602), or the equivalent

Note(s): The Islamicate Civilization sequence does not fulfill the General Ed requirements Equivalent Course(s): NEHC 20203, RLST 20203, ISLM 30203, HIST 15613, HIST 35623

## NEHC 30235. Imaging Armenia: Diaspora and the Constitution of Subjectivity. 100 Units.

What does it mean to be "Armenian"? Despite centuries of dispersion and displacement, there has remained, in the Armenian diaspora, a sense of Armenian-ness-a sense, in other words, of being Armenian. This course will serve as an interrogation of and meditation on what that sense of being has looked like across time and space, as seen through the lens of pivotal musical and other artistic works from the post-genocide diaspora. Through in-depth analyses of these works and the discourses surrounding them, this course will trace the emergence, articulation, and negotiation of Armenian diasporic subjectivities and the ways in which those subjectivities have emerged in relation to and in conversation with power structures both internal and external to the Armenian communities under discussion. Diaspora, then, will be approached not as a fixed unit of analysis, but as something that emerges and is sustained through complex relationships and negotiations with sociopolitical forces both within and outside the diasporic community. Through this course, we will see that artistic expression in the Armenian diaspora functions as a site of agency: a site in which the question of what it is to be Armenian is explored in ways that shape, challenge, and upend notions and understandings of diasporic identity. Instructor(s): Sylvia Alajaji Terms Offered: Autumn

Equivalent Course(s): NEHC 20235

# NEHC 30300. Introductory Qur'anic Arabic III. 100 Units.

This course is the third in a 3-quarter sequence "Introduction to Qur'anic Arabic" (IQA), which aims to provide students with foundational philological and reading skills by covering the essentials of Our'anic/Classical Arabic grammar. This course also features readings of select passages from the Qur'an, #ad#th and Tafs#r. The 3 quarters of IQA are sequential, and students are strongly encouraged to join in the first quarter. Exceptions can be made on a case by case basis. Instructor(s): TBD Terms Offered: Spring

Prerequisite(s): Graduate and undergraduate students from any department are welcome to register. The minimum prerequisite for IQA III is the successful completion of IQA II or equivalent training. The IQA sequence is also open to students who may have had more exposure to Arabic (modern or classical) but wish to acquire a solid foundation in Arabic grammar, and/or students who feel they are not yet ready for third-year Arabic courses. Equivalent Course(s): RLST 15300, ISLM 30300

### NEHC 30455. Topics in Semitic Studies. 100 Units.

In this course, we will investigate and discuss prevalent topics in the philological and linguistic study of Semitic languages. The weekly topics will touch on the major sub-categories of grammar and focus on methodology

Instructor(s): Rebecca Hasselbach-Andee Terms Offered: Autumn

Prerequisite(s): Introduction to Comparative Semitics or equivalent (e.g. general intro to Linguistics).

Note(s): Consent of Instructor required

# NEHC 30504. Introduction to the Hebrew Bible. 100 Units.

The course will survey the contents of the Hebrew Bible, and introduce critical questions regarding its figures and ideas, its literary qualities and anomalies, the history of its composition and transmission, its relation to other artifacts from the biblical period, its place in the history and society of ancient Israel and Judea, and its relation to the larger culture of the ancient Near East.

Instructor(s): Simeon Chavel Terms Offered: Autumn

Note(s): This course counts as a Gateway course for RLST majors/minors.

Equivalent Course(s): JWSC 20120, HIJD 31004, RLST 11004, BIBL 31000, NEHC 20504

## NEHC 30568. Balkan Folklore. 100 Units.

Vampires, fire-breathing dragons, vengeful mountain nymphs. 7/8 and other uneven dance beats, heart-rending laments, and a living epic tradition. This course is an overview of Balkan folklore from historical, political, and anthropological perspectives. We seek to understand folk tradition as a dynamic process and consider the function of different folklore genres in the imagining and maintenance of community and the socialization of the individual. We also experience this living tradition firsthand through visits of a Chicago-based folk dance ensemble, "Balkan Dance."

Instructor(s): A. Ilieva Terms Offered: Winter

Equivalent Course(s): ANTH 35908, ANTH 25908, CMLT 33301, NEHC 20568, REES 29009, CMLT 23301, REES 39009

# NEHC 30570. Mughal India: Tradition & Transition. 100 Units.

The focus of this course is on the period of Mughal rule during the late sixteenth, seventeenth, and eighteenth centuries, especially on selected issues that have been at the center of historiographical debate in the past decades. Instructor(s): M. Alam Terms Offered: Autumn

Prerequisite(s): Advanced standing or consent of instructor. Prior knowledge of appropriate history and secondary literature required.

Equivalent Course(s): HIST 36602, SALC 37701, HIST 26602, NEHC 20570, SALC 27701

## NEHC 30573. The Burden of History: The Nation and Its Lost Paradise. 100 Units.

What makes it possible for the imagined communities called nations to command the emotional attachments that they do? This course considers some possible answers to Benedict Anderson's question on the basis of material from the Balkans. We will examine the transformation of the scenario of paradise, loss, and redemption into a template for a national identity narrative through which South East European nations retell their Ottoman past. With the help of Žižek's theory of the subject as constituted by trauma and Kant's notion of the sublime, we will contemplate the national fixation on the trauma of loss and the dynamic between victimhood and sublimity.

Instructor(s): A. Ilieva Terms Offered: Autumn

Equivalent Course(s): CMLT 33401, REES 29013, NEHC 20573, CMLT 23401, HIST 24005, HIST 34005, REES 39013

# NEHC 30585. Journeys Real & Virtual. Travel in the Pre-modern Mediterranean. 100 Units.

This course focuses on the art of travel in the Medieval and early modern Mediterranean. From the late Middle Ages through the sixteenth century, European pilgrimage to the Holy Land constituted some of the most advanced experiments in representing travel, describing foreign cities, and mapping out territories. Travel accounts represent the core material around which this course is structured along with images and maps in other contexts that such experiments influenced. Course material will span the fields of religion, art, literary, and urban history, encompassing historical geography, cartography, and cultural history. Students will engage directly with the verbal and visual modes that characterize the documentary legacy of mental and physical travel in order to come to terms with the different regimes of knowledge they construct as well as the cognitive demands they place on their audience. Through a comparison of techniques, students will explore the ways in which texts, images, and maps sought to understand human interaction, visualize geographical context, locate history, and make sense of the world beyond their drama of their local experience.

Instructor(s): Niall Atkinson and Karin Krause Terms Offered: Spring

Prerequisite(s): Consent required: Please email Prof. Atkinson or Prof. Krause for request form.

Equivalent Course(s): RLVC 45805, ARTH 40585, CDIN 45085, HCHR 45805, HIST 60705, RLLT 33020

# NEHC 30605. Colloquium: Sources for the Study of Islamic History. 100 Units.

This course is designed to acquaint the student with the basic problems and concepts as well as the sources and methodology for the study of premodern Islamic history. Sources will be read in English translation and the tools acquired will be applied to specific research projects to be submitted as term papers.

Instructor(s): J. Woods Terms Offered: Winter

Equivalent Course(s): HIST 36005, HIST 26005, ISLM 30605, NEHC 20605, MDVL 20605

## NEHC 30625. Approaches to the Study of the Ancient Near East. 100 Units.

This is a required introductory course for all CMES ancient-track students.

Instructor(s): Brian Muhs Terms Offered: Autumn Equivalent Course(s): CMES 31002

# NEHC 30658. Narrating Conflict in Modern Arabic Literature. 100 Units.

This course is an exploration of conflict in the Arab world through literature, film and new media. In this course, we will discuss the influence of independence movements, wars, and revolts on Arabic literature: how do writers write about, or film, conflict? How does conflict affect language itself? How do these texts engage with issues of trauma and bearing witness? To answer these questions, we will look at a number of key moments of conflict in the Arab world, including the Arab-Israeli conflicts, the Algerian war of independence, the 2011 Egyptian revolution, the Lebanese and Iraq wars, and the ongoing war in Syria. Rather than follow a historical chronology of these events, we will read these texts thematically, beginning with texts that seek to present themselves as direct, sometimes eye-witness, accounts and then moving on to narratives that complicate the relationship between conflict and its narration.

Instructor(s): G. Hayek Terms Offered: Spring

Equivalent Course(s): NEHC 20658, ARAB 20658, ARAB 30658

#### NEHC 30659. The Task of the Self Translator. 100 Units.

Walter Benjamin famously wrote that a translation issues from the "afterlife" of the original: "For a translation comes later than the original, and since the important works of world literature never find their chosen translators at the time of their origins, their translation marks their stage of continued life." This graduate seminar focuses on the case of multilingual writers and their self-translations to raise questions concerning the temporality, directionality, and "afterlife" of translated works. The figure of the self-translator challenges models of translation. For one, self-translation calls into question the notions of originality or "the original" and of "fidelity," and requires us to consider the overlap between translation and rewriting. What brought writers to produce the same texts in different languages, at times for similar audiences of multilingual readers? What theories of translation or world literature might be helpful when approaching the case of Jewish studies, considering the difference between internal, Hebrew-Yiddish, self-translation, and the translation between Hebrew or Yiddish and a third "non-Jewish" language, whether European or Middle-Eastern.

Instructor(s): Na'ama Rokem Terms Offered: Autumn

Note(s): This is a course intended only for graduate students

Equivalent Course(s): RLVC 30659, CMLT 30610

# NEHC 30687. Coll: Persian Historical Texts. 100 Units.

This course will focus on the study and utilization of narrative, normative, and archival sources in Persian. Texts of the major Iranian historians and biographers will be subjected to close reading and analysis. The scripts, protocols, and formula used by Irano-Islamic chancelleries will also be introduced and the form and content of published and unpublished archival documents will be transcribed and examined in their institutional context.

Instructor(s): J. Woods Terms Offered: Autumn

Prerequisite(s): Knowledge of Persian required; open to upper-level undergraduates with consent of instructor. Equivalent Course(s): CMES 30687, HIST 59000

## NEHC 30692. Armenian History through Art and Culture. 100 Units.

Who are the Armenians and where do they come from? What is the cultural contribution of Armenians to their neighbors and overall world heritage? This crash-course will try to answer these and many other similar questions while surveying Armenian history and elements of culture (mythology, religion, manuscript illumination, art, architecture, etc.). It also will discuss transformations of Armenian identity and symbols of 'Armenianness' through time, based on such elements of national identity as language, religion, art, or shared history. Due to the greatest artistic quality and the transcultural nature of its monuments and artifacts, Armenia has much to offer in the field of Art History, especially when we think about global transculturation and appropriation among cultures as a result of peoples' movements and contacts. The course is recommended for students with interest in Armenian Studies or related fields, in Area or Civilizations Studies, Art and Cultural Studies, etc.

Instructor(s): Hripsime Haroutunian Terms Offered: Winter

Equivalent Course(s): HIST 25711, NEHC 20692, ARTH 20692

## NEHC 30737. Imperialism before the Age of Empires? 100 Units.

This course offers a critical analysis of the use of concepts such as empire and imperialism in the historiography of ancient Mesopotamia to address political formations that developed (and vanished) from the Early to Late Bronze Ages (mid-3rd to late-2nd millennium BCE). Drawing from theoretical studies on imperialism and the imperial constructions that developed in the Iron Age and beyond (starting with the Neo-Assyrian and Neo-Babylonian empires), this seminar will explore the nature of power, control, and resource management in these early formations, and how they qualify (or not) as imperial policies. Students will address a substantial part of Mesopotamian history (from the Sargonic down to the Middle Assyrian and Babylonian periods) and study in depth some key historiographical issues for the history of Early Antiquity. Primary documents will be read in translation and the course has no ancient language requirements. However, readings of secondary literature in common academic languages (especially French and German) are to be expected. This course fulfills the requirements of a survey course in Mesopotamian civilization as defined by the Ancient PhD programs in NELC and MA program in the CMES.

Instructor(s): Hervé Reculeau Terms Offered: Winter

Equivalent Course(s): NEHC 20737, HIST 30312, HIST 20312

# NEHC 30755. Research Topics in Ottoman History. 100 Units.

This course will discuss current trends in research for 19th and early 20th Century Ottoman and Turkish history. Instructor(s): Holly Shissler Terms Offered: Autumn Note(c): Concent of Latructor required

Note(s): Consent of Instructor required

### NEHC 30765. Introduction to the Musical Folklore of Central Asia. 100 Units.

This course explores the musical traditions of the peoples of Central Asia, both in terms of historical development and cultural significance. Topics include the music of the epic tradition, the use of music for healing, instrumental genres, and Central Asian folk and classical traditions. Basic field methods for ethnomusicology are also covered. Extensive use is made of recordings of musical performances and of live performances in the area.

Instructor(s): Kagan Arik Terms Offered: Spring

Equivalent Course(s): ANTH 25905, REES 25001, MUSI 23503, REES 35001, MUSI 33503, NEHC 20765

# NEHC 30852-30853. Seminar: Ottoman World/Suleyman I-II.

This two-quarter seminar focuses on the transformation of the Muslim Ottoman principality into an imperial entity--after the conquest of Constantinople in 1453--that laid claim to inheritance of Alexandrine, Roman/Byzantine, Mongol/Chinggisid, and Islamic models of Old World Empire at the dawn of the early modern era. Special attention is paid to the transformation of Ottoman imperialism in the reign of Sultan Süleyman the Lawgiver (1520-1566), who appeared to give the Empire its "classical" form. Topics include: the Mongol legacy; the reformulation of the relationship between political and religious institutions; mysticism and the creation of divine kingship; Muslim-Christian competition (with special reference to Spain and Italy) and the formation of early modernity; the articulation of bureaucratized hierarchy; and comparison of Muslim Ottoman, Iranian Safavid, and Christian European imperialisms. The first quarter comprises a chronological overview of major themes in Ottoman history, 1300-1600; the second quarter is divided between the examination of particular themes in comparative perspective (for example, the dissolution and recreation of religious institutions of research for the seminar paper. In addition to seminar papers, students will be required to give an oral presentation on a designated primary or secondary source in the course of the seminar.

## NEHC 30852. The Ottoman World in the Age of Suleyman the Magnificent. 100 Units.

This seminar/colloquim focuses on the transformation of the Muslim Ottoman principality into an imperial entity-after the conquest of Constantinople in 1453--that laid claim to inheritance of Alexandrine, Roman/Byzantine, Mongol/ Chinggisid, and Islamic models of Old World Empire at the dawn of the early modern era. Usually taught as a twoquarter reseach seminar, this year only the first quarter is offered, with a 15-20 paper due at the end. Special attention is paid to the transformation of Ottoman imperialism in the reign of Sultan Süleyman the Lawgiver (1520-1566), who appeared to give the Empire its "classical" form. Topics include: the Mongol legacy; the reformulation of the relationship between political and religious institutions; mysticism and the creation of divine kingship; Muslim-Christian competition (with special reference to Spain and Italy) and the formation of early modernity; the articulation of bureaucratized hierarchy; and comparison of Muslim Ottoman, Iranian Safavid, and Christian European imperialisms. The quarter-long colloquium comprises a chronological overview of major themes in Ottoman history, 1300-1600. In addition to papers, students will be required to give an oral presentation on a designated primary or secondary source in the course of the seminar.

Instructor(s): Cornell Fleischer Terms Offered: Autumn

Equivalent Course(s): HIST 58302, ISLM 30852, CMES 30852

## NEHC 30853. Ottoman World/Suleyman II. 100 Units.

This two-quarter seminar focuses on the transformation of the Muslim Ottoman principality into an imperial entity-after the conquest of Constantinople in 1453--that laid claim to inheritance of Alexandrine, Roman/Byzantine, Mongol/ Chinggisid, and Islamic models of Old World Empire at the dawn of the early modern era. Special attention is paid to the transformation of Ottoman imperialism in the reign of Sultan Süleyman the Lawgiver (1520-1566), who appeared to give the Empire its "classical" form. Topics include: the Mongol legacy; the reformulation of the relationship between political and religious institutions; mysticism and the creation of divine kingship; Muslim-Christian competition (with special reference to Spain and Italy) and the formation of early modernity; the articulation of bureaucratized hierarchy; and comparison of Muslim Ottoman, Iranian Safavid, and Christian European imperialisms. The first quarter comprises a chronological overview of major themes in Ottoman history, 1300-1600; the second quarter is divided between the examination of particular themes in comparative perspective (for example, the dissolution and recreation of religious institutions in Islamdom and Christendom) and student presentations of research for the seminar paper. In addition to seminar papers, students will be required to give an oral presentation on a designated primary or secondary source in the course of the seminar.

Instructor(s): Cornell Fleischer Terms Offered: Winter Equivalent Course(s): CMES 38052, HIST 58303

# NEHC 30891-30892. Seminar: Introduction to the Ottoman Press I-II.

This is a 2-quarter research seminar. Part 1 may be taken independently. Course introduces students to the historical context and specific characteristics of the mass printed press (newspapers, cultural and political journals, etc.) in the Ottoman Empire in the 19th C. We will investigate issues such as content, censorship, production, readership and distribution through secondary reading and the examination of period publications.

#### NEHC 30891. Sem: Intro to the Ottoman Press-1. 100 Units.

Course introduces students to the historical context and specific characteristics of the mass printed press (newspapers, cultural and political journals, etc.) in the Ottoman Empire in the 19th C. We will investigate issues such as content, censorship, production, readership and distribution through secondary reading and the examination of period publications.

Instructor(s): H. Shissler Terms Offered: Winter Equivalent Course(s): HIST 35707

#### NEHC 30892. Introduction to the Ottoman Press-II. 100 Units.

Students will develop their research papers, and we will continue to explore aspects of the late Ottoman press. Instructor(s): H. Shissler Terms Offered: Spring

#### NEHC 30901. Orality, Literature and Popular Culture of Afghanistan and Pakistan. 100 Units.

Course description unavailable. Instructor(s): C. R. Perkins Terms Offered: Winter. Course was offered 2013 Equivalent Course(s): CMLT 26901, HIST 36905, HIST 26905, NEHC 20901, SALC 26901, CMLT 36901

# NEHC 30937. Nationalism & Colonialism in the Middle East. 100 Units.

The seminar covers the history of the region during the 19th and 20th centuries. It looks at how the modern historiography of modern Middle Eastern studies shaped, and was shaped by, post-colonial studies, subaltern studies, and historical perceptions of urbanity, modernity, Orientlaism, and class. The class will pay heed to the fluid and constructed nature of Arab national culture, and the terminology used by Arab nationalists concerning "nahda," "revival," and "rebirth." We will explore various "golden ages" Arab nationalists envisioned, like pre-Islamic Semitic empires, the first Islamic state under the leadership of the Prophet Muhammad, the Ummayds, the Abbasids and Muslim Spain, as a way of analyzing the the constructed and temporal nature of national discourses. We will finally examine the distinction between Pan-Arab nationalism (qawmiyya), which considered Arab culture, history, and language as markers of one's national identity, and often strove for political unity with other Arab states; and territorial-patriotic nationalism (wataniyya), which hailed the national cultures of particular Arab states (Egyptian, Iraqi, Lebanese), focusing on their geography, archaeology, and history the key features of national identity.

Instructor(s): Orit Bashkin Terms Offered: Autumn
#### NEHC 30943. Colloquium: Iran and Central Asia I. 100 Units.

The first quarter will take the form of a colloquium on the sources for and the literature on the political, social, economic, technological, and cultural history of Western and Central Asia from approximately 1500 to 1750. Classroom presentations and a short paper are required.

Instructor(s): J. Woods Terms Offered: Autumn

Prerequisite(s): Open to upper-level ugrads with consent of instructor. Note(s): The 20–21 focus will be the Mongol world empire.

Equivalent Course(s): CMES 58601, HIST 58601

# NEHC 30944. Colloquium: Iran and Central Asia II. 100 Units.

The second quarter will be devoted to the preparation of a major research paper. Instructor(s): J. Woods Terms Offered: Winter Prerequisite(s): HIST 58601; open to upper-level undergraduates with consent Note(s): The 20–21 focus will be the Mongol world empire. Equivalent Course(s): CMES 58602, HIST 58602

# NEHC 31000. Before the Zodiac: Astronomy and Mathematics as Ancient Culture. 100 Units.

Taking as its central theme the cultural situatedness of the earliest systems of mathematics and astronomy-from their origins in ancient Mesopotamia (Iraq, c. 3400 BCE) until the Common Era (CE)-this course explores topics in mathematical language and script, metrology, geometry and topology, music theory, definitions of time, models of stars and planets, medical astrology, and pan-astronomical hermeneutics in literature and an ancient board game. Pushing against boundaries separating the humanities and social and physical sciences, students discover how histories of science and mathematics could be decisively shaped not merely by sensory experience or axiomatic definition, but also by ideas and imagery derived from the cultures, societies, and aesthetics of their day.

Instructor(s): J. Wee Terms Offered: Spring

Equivalent Course(s): SIGN 26045, NEHC 21000, HIPS 21001

# NEHC 31215. Abraham's Sacrifice of Isaac in Multiple Perspectives. 100 Units.

The story of Abraham's (near) sacrifice of his son, Isaac, found in Genesis 22:1-19, is one of the most influential and enduring stories in Western literature and art. It is part of the living tradition of Judaism, Christianity, and Islam and its meaning and implications have been repeatedly explored in the communities defined by these religions, and has, in turn, helped to shape the self-perception of those communities. This course will consider the multiple perspectives from which this story has been viewed and the multiple interpretations which this story has generated, starting with its earliest incorporation into the Hebrew Bible, moving to its role in Judaism, Christianity, and Islam, and concluding with its influence on modern works. No knowledge of Hebrew is required.

Instructor(s): Stuart Creason Terms Offered: Spring

Equivalent Course(s): HIJD 31215, BIBL 31215, ISLM 31215, NEHC 21215, JWSC 21215, RLST 21215

#### NEHC 32700. Law in Biblical Literature. 100 Units.

The course will survey topics of biblical law, recover biblical legal reasoning, compare biblical law with comparable ancient Near Eastern records and literature, reconsider the nature of biblical legal composition, interpret biblical legal passages within their larger compositions as pieces of literature, analyze several non-legal biblical texts for the legal interpretation embedded in them, and engage modern scholarship on all these aspects. In addition to preparing to discuss assigned biblical texts, students will also work towards composing an original piece of sustained analysis submitted at quarter's end. Instructor(s): Simeon Chavel Terms Offered: Winter

Prerequisite(s): 1 year biblical Hebrew + 1 course in Hebrew Bible Equivalent Course(s): HIJD 32700, RLST 22700, BIBL 32700, JWSC 22702

# NEHC 33601. The Problem of Evil and Philosophical Commentaries on the Book of Job in Medieval Philosophy: Saadia. 100 Units.

This seminar will examine medieval philosophers' discussions of evil and suffering, natural, bodily, and mental, in their philosophical treatises and in their commentaries on the Book of Job. We will be concerned both with standard topics such as theodicies or justifications for evil, providence and natural evils, and what exactly 'the' problem of evil is as well as with the question whether and how the genre in which one pursues these questions makes a difference. In particular, did the commentary form, especially on a book like Job with its enigmatic literary form, enable medieval thinkers to articulate philosophical issues they could not in their philosophical treatises using discursive argumentation? (IV) Instructor(s): J. Stern Terms Offered: Winter

Prerequisite(s): Knowledge of Arabic, Hebrew, and Latin is not required, but it can't hurt. Equivalent Course(s): DVPR 53601, PHIL 53601

#### NEHC 33704. Religion in Modern Iran. 100 Units.

TBD Terms Offered: TBD Equivalent Course(s): ISLM 33404, AASR 33404

# NEHC 34110. The Soviet Empire. 100 Units.

What kind of empire was the Soviet Union? Focusing on the central idea of Eurasia, we will explore how discourses of gender, sexuality and ethnicity operated under the multinational empire. How did communism shape the state's regulation of the bodies of its citizens? How did genres from the realist novel to experimental film challenge a cohesive patriarchal, Russophone vision of Soviet Eurasia? We will examine how writers and filmmakers in the Caucasus and Central Asia answered Soviet Orientalist imaginaries, working through an interdisciplinary archive drawing literature and film from the Soviet colonial 'periphery' in the Caucasus and Central Asia as well as writings about the hybrid conception of Eurasia across linguistics, anthropology, and geography.

Instructor(s): Leah Feldman Terms Offered: Autumn

Equivalent Course(s): CRES 24111, CMLT 34111, CRES 34111, CMLT 24111, REES 34110, REES 24110, NEHC 24110

# NEHC 35004. Readings in Ibn Tufayl's Hayy b. Yaqzan. 100 Units.

A study of Ibn Tufayl's twelfth-century philosophical/mystical romance about a boy spontaneously generated on a desert island who achieves knowledge of God through empirical study of nature. The many themes in Hayy ibn Yaqzan will be studied in relation to the philosophical literature that formed it and in light of recent modern scholarship about it. Instructor(s): James T. Robinson Terms Offered: Winter

Equivalent Course(s): ISLM 35004, HIJD 35004, RLST 25105, FNDL 25105, MDVL 15004

# NEHC 35147. Anthropology of Israel. 100 Units.

This seminar explores the dynamics of Israeli culture and society through a combination of weekly screenings of Israeli fiction and documentary films with readings from ethnographic and other relevant research. Among the (often overlapping) topics to be covered in this examination of the institutional and ideological construction of Israeli identity/ies: the absorption of immigrants; ethnic, class, and religious tensions; the kibbutz; military experience; the Holocaust; evolving attitudes about gender and sexuality; the struggle for minorities' rights; and Arab-Jewish relations.

Instructor(s): Morris Fred Terms Offered: Spring

Equivalent Course(s): ANTH 25150, JWSC 25149, ANTH 35150, NEHC 25147, MAPS 35150, CMES 35150

# NEHC 35148. Israel in Film and Ethnography. 100 Units.

This seminar explores the dynamics of Israeli culture and society through a combination of weekly screenings of Israeli fiction and documentary films with readings from ethnographic and other relevant research. Among the (often overlapping) topics to be covered in this examination of the institutional and ideological construction of Israeli identity/ies: the absorption of immigrants; ethnic, class, and religious tensions; the kibbutz; military experience; the Holocaust; evolving attitudes about gender and sexuality; the struggle for minorities' rights; and Arab-Jewish relations. In addition to the readings, participants will be expected to view designated films before class related to the topic.

Equivalent Course(s): NEHC 25148, MAPS 35148, ANTH 25148, CMES 35148, ANTH 35148, JWSC 25148

# NEHC 36500. The Radiant Pearl: Introduction to Syriac Literature and its Historical Contexts. 100 Units.

After Greek and Latin, Syriac literature represents the third largest corpus of writings from the formative centuries of Christianity. This course offers students a comprehensive overview of the dominant genres and history of Syriac-speaking Christianits from the early centuries through the modern day. Moving beyond traditional historiography that focuses exclusively on early Christianity within the Roman Empire, this class examines Christian traditions that took root in the Persian and later Islamic Empires as well. Through studying the history and literature of Syriac-speaking Christianity and its diversity comes to the fore. Syriac-speaking Christians preached the Gospel message from the Arabian Peninsula to early modern China and India. Syriac writers also raised female biblical figures and holy women to prominent roles within their works. Students will broaden their understanding of the development of Christian literature. Special attention will be paid to biblical translation, asceticism, poetry, differences between ecclesial communities as well as the changing political fortunes of Syriac-speaking populations. No previous knowledge or study expected.

Instructor(s): Erin Galgay Walsh Terms Offered: Autumn

Equivalent Course(s): GNSE 26505, BIBL 36500, NEHC 26500, HCHR 36500, GNSE 36505, RLST 16500

#### NEHC 36614. Making the Monsoon: The Ancient Indian Ocean. 100 Units.

The course will explore the human adaptation to a climatic phenomenon and its transformative impacts on the littoral societies of the Indian Ocean, circa 1000 BCE-1000 CE. Monsoon means season, a time and space in which favorable winds made possible the efficient, rapid crossing of thousands of miles of ocean. Its discovery-at different times in different places-resulted in communication and commerce across vast distances at speeds more commonly associated with the industrial than the preindustrial era, as merchants, sailors, religious specialists, and scholars made monsoon crossings. The course will consider the participation of Mediterranean, Middle Eastern, South Asian, and East African actors in the making of monsoon worlds and their relations to the Indian Ocean societies they encountered; the course is based on literary and archaeological sources, with attention to recent comparative historiography on oceanic, climatic, and global histories.

Instructor(s): R. Payne Terms Offered: Spring

Equivalent Course(s): HIST 26614, CLCV 26620, MDVL 26614, SALC 26614, CLAS 36620, HIST 36614, NEHC 26614, SALC 36614

NEHC 37302. Transmission of Islamic Knowledge in South Asia since 1800. 100 Units.

Equivalent Course(s): ISLM 37302, HIST 45904, SALC 47302

# NEHC 39023. Returning the Gaze: The West and the Rest. 100 Units.

Aware of being observed. And judged. Inferior... Abject... Angry... Proud... This course provides insight into identity dynamics between the "West," as the center of economic power and self-proclaimed normative humanity, and the "Rest," as the poor, backward, volatile periphery. We investigate the relationship between South East European self-representations and the imagined Western gaze. Inherent in the act of looking at oneself through the eyes of another is the privileging of that other's standard. We will contemplate the responses to this existential position of identifying symbolically with a normative site outside of oneself-self-consciousness, defiance, arrogance, self-exoticization-and consider how these responses have been incorporated in the texture of the national, gender, and social identities in the region. Orhan Pamuk, Ivo Andri#, Nikos Kazantzakis, Aleko Konstantinov, Emir Kusturica, Milcho Manchevski.

Instructor(s): Angelina Ilieva Terms Offered: Winter

Equivalent Course(s): CMLT 39023, NEHC 29023, REES 29023, HIST 23609, CMLT 29023, REES 39023, HIST 33609

# NEHC 39714. North Africa in Literature and Film. 100 Units.

This course explores twentieth- and twenty-first century literary and cinematic works from the countries of North Africa. We will focus in particular on the region of Northwestern Africa known as the Maghreb-encompassing Algeria, Morocco, and Tunisia. Situated at the crossroads of Africa, the Middle East, and Europe, the Maghreb has a layered colonial past culminating in France's brutal occupation of the region through the 1960s. Inflected by this colonial history, Maghrebi studies tends to privilege Francophone works while overlooking the region's rich Arabic and indigenous traditions. Understanding the Maghreb as both a geopolitical as well as an imagined space, our course materials reflect the region's diverse cultural histories and practices. We will consider the Maghreb's ethnic, linguistic, and religious pluralism in dialogue with broader questions of cultural imperialism, orientalism, decolonization, and globalization. Fictional and cinematic works will be paired with relevant historical and theoretical readings. In light of the recent 'Arab Spring' catapulted by the Tunisian uprising in January 2011, we will also touch on contemporary social and political happenings in the region. Instructor(s): Hoda El Shakry Terms Offered: Spring

Equivalent Course(s): NEHC 29714, CMLT 29714, CMLT 39714

# NEHC 40020. The Mediterranean Sea in Antiquity: Imperial Connections. 100 Units.

The Mediterranean Sea has long inspired imaginings of lands and peoples connected by its waters. From the Romans' Mare Nostrum, "our sea," to today's variants of "middle sea" - Greek Mesogeios, German Mittelmeer, and of course, Latin Mediterranean - imaginations of the sea have often celebrated its spatial and social cohesion. The Mediterranean continues to possess a middling geopolitical identity today, situated as it is between continental Europe, the Aegean, the Middle East, and North Africa. And yet, despite our diachronic investment in recognizing the Mediterranean's grand narrative as a locus of cultural connectivity, its long-term histories of interregional dynamics remain difficult to approach holistically. This concern is especially salient when it comes to the study of ancient empires, those large, expansionary polities whose social, political, and economic practices drew disparate groups together, and at times forced them apart. This class has two closely related objectives. First, we tackle the most ambitious pieces of scholarship on Mediterranean history to evaluate how various disciplines have sought to analyze and to bound the sea as a cartographic whole. In the process, we gain an appreciation not only for the methodological and interpretive scales involved in such an undertaking, but for the various disciplinary strategies the Mediterranean's diverse histories have inspired. Second, we interrogate one sociopolitical structure - the empire - and question how the Mediterranean encouraged and challenged imperialism as a recurring formation that worked to maintain sovereignty across broad geographical expanses. In doing so, we explore the variegated processes of cultural connectivity that have characterized the ancient Mediterranean from east to west. Equivalent Course(s): ANTH 46715, CLAS 41717, CDIN 41717, HIST 51300, ANCM 41717

NEHC 40470. Readings in Maimonides' Guide of the Perplexed. 100 Units.

A careful study of select passages in Maimonides' Guide of the Perplexed, focusing on the method of the work and its major philosophical-theological themes, including: divine attributes, creation vs. eternity, prophecy, the problem of evil and divine providence, law and ethics, the final aim of human existence.

Instructor(s): James Robinson Terms Offered: Autumn

Equivalent Course(s): MDVL 25400, HREL 45401, JWSC 21107, RLST 21107, ISLM 45400, FNDL 24106, RLVC 45400, HIJD 45400

#### NEHC 40600. Islamic Love Poetry. 100 Units.

The focus of this course is classical Islamic love poetry, Arabic and Persian love lyric will be covered, as well as some Ottoman love lyric (at least in translation). In the past we have incorporated Urdu, Punjabi, Bangla, Bosnian, and Turkish traditions, and-for comparative and historical purposes-Hebrew poetry from medieval Andalus. Because none of us are proficient in the all these languages, students who are proficient a given language are asked to provide a guide (including text, translation, explanation of key vocabulary, etc.) for selected poems from in that language. Each member of the class will be asked to present one poem guide, in addition to a final assignment. Among the poets commonly included in the course are Ibn Zaydun, Ibn al-Farid, Ibn al-`Arabi, Rumi, Hafiz, Baba Fighani, Na'ili, Mir Dard, Bulleh Shah, and Ghalib. Equivalent Course(s): RLIT 40300, CMLT 40100, ISLM 40100

#### NEHC 40601. Readings in the Text of the Qur'an. 100 Units.

Intensive readings in the Arabic text of the Qur'an. We focus on reading the Qur'anic text closely, with attention to grammar, syntax, recitation protocols, vocabulary, parables, symbols, figures of speech, rhetoric, changes in voice and person, allusions to parallel Qur'anic passages, and theology. Classical and modern commentaries are consulted, but the primary emphasis is on the Qur'anic text itself. The winter 2013 course will focus upon suras attributed to the Meccan period of Muhammad's prophetic career, particularly those such as suras 52, 53, 55, and 56 that take up the theme of the garden. Students may well have different levels of Arabic; the course does not make Arabic proficiency into a matter of evaluation, but encourages each participant to work at his or her level.

Instructor(s): Michael Sells Terms Offered: Spring

Prerequisite(s): The second quarter of "Introduction to Our'anic Arabic", or 2 years of Arabic or the equivalent. Equivalent Course(s): ISLM 40500

# NEHC 40604. Readings in Arabic Religious Texts. 100 Units.

Texts to be covered include the 27th Sura of the Qur'an, selections from the Adab work Muhadarat al-Abrar of Ibn `Arabi, and examples of the Hadith Qudsi genre (hadiths that report divine, non-Qur'anic messages given to the Prophet). Instructor(s): Michael Sells Terms Offered: Spring Equivalent Course(s): HIJD 50200, ISLM 50200

NEHC 40605. From Caliphate to Nation State: A Survey of Modern Muslim Constitutional Thought. 100 Units. Equivalent Course(s): ISLM 49200

# NEHC 40711. Cinema Without an Archive. 100 Units.

This seminar takes a comparative approach to issues of archival precarity with particular attention to cinema, memory, and materiality. We will investigate the fraught and contested histories and problems of the archive and the limitations of archival thinking and practice in a comparative context, focusing on post-colonial and post-conflict sites in the Middle East, Asia, Africa, as well as the low rates of survival for minoritarian film practices in the United States. Some of these problems are about gaps: how do we attend to the absence and instability of the film artifact? How do these problems surface-and how are they mediated-in postcolonial sites that grapple with conflict, weak state structures, and contested commemorative practices and issues? Other questions concern definitive versions, remediation, degraded extant material, and barriers to archival access. Topics include the use of extrafilmic evidence and primary paracinematic evidence, fiction and speculative approaches to history, theories of evidence, archival theories and practices, commemorative practices, and the role of state and nongovernmental institutions in the formation of cultural memory.

Instructor(s): Allyson Nadia Field & Ghenwa Hayek Terms Offered: Winter

Prerequisite(s): none

Note(s): There will be a weekly screening with this seminar.

Equivalent Course(s): CMLT 67814, CMST 67814, CDIN 67814

# NEHC 41000. Writings of Ibn al-'Arabi. 100 Units.

This course will focus on sections from Ibn al-'Arabi's al-Futuhat al-Makkiyya "The Meccan Openings," including chapters 1 and 10, as well as the commentary he wrote upon his own love poems. The important new critical edition of the Futuhat, by Abd al-`Aziz Sultan al-Mansub (Yemen, 2013), will serve as the base text. We will also engage one of the chapters from Ibn `Arabi's Fusus al-Hikam (Bezels of Wisdom) and will be able to take advantage of the new, fully-vocalized edition of that work

Equivalent Course(s): ISLM 51000

# NEHC 41005. Colloquium: Late Antique Mediterranean I. 100 Units.

Research problems in eastern, central, and western Mediterranean from the fourth to seventh century CE. Detailed investigation of relevant primary sources in Greek, Latin, and Arabic. Will continue in winter quarter. Equivalent Course(s): CLAS 31515, HIST 41005, ANCM 31515

#### NEHC 41006. Colloquium: Late Antique Mediterranean II. 100 Units.

Research problems in eastern, central, and western Mediterranean from the fourth to seventh century CE. Detailed investigation of relevant primary sources in Greek, Latin, and Arabic. In the winter quarter, we focus on research topics for the colloquium paper.

Equivalent Course(s): CLAS 31516, HIST 41006, ANCM 31516

# NEHC 42700. Interactions b/w Jewish Phil. and Lit.in Middle Ages. 100 Units.

Any study of Jewish philosophy that focuses on a small collection of systematic summas tells only half the story. In this seminar, the emphasis will be shifted from canonical theologies to lesser-known works of literature. Each class will examine the way a different genre was used to defend philosophy and teach it to the community at large. Emphasis will be on literary form and style, rhetoric, methods of teaching and argumentation, all in relation to questions about reception and dissemination, progress and creativity, science and religion.

Instructor(s): James T. Robinson Terms Offered: Winter

Equivalent Course(s): RLST 28504, JWSC 22701, RLVC 42700, MDVL 22700, ISLM 42700, HIJD 42700, NEHC 28504

# NEHC 42720. The Return of Migration: Mobility and the New Empiricism. 100 Units.

This seminar questions the prerogatives of disciplines in framing and explaining social change via mobility. Following earlier theories of diffusion to understand diachronic cultural change, and the subsequent contextual critiques that privilege historical contingencies and human agency, advances in identifying past human movement through techniques like ancient DNA genome testing have increasingly led to the revival of migration as a subject of focus and explanation. As growing interest in contemporary refugee and forced migration studies is showing, migration represents not just a wide-ranging practice of different types, but is a semantically charged and ambiguous term whose recent applications provide new opportunities to assess its interpretive advantages and limitations. Is the new empirical emphasis on migration re-racializing antiquity? What do we gain by studying concepts of diasporas, transnationalism, and border crossings in the premodern world? Why does migration matter? Divided into two parts, the course covers the conceptual and theoretical work in current literature on migration as well as applications to specific historical problems from ancient and modern Eurasia. Instructor(s): James Osborne and Catherine Kearns Terms Offered: Winter Equivalent Course(s): CLAS 42720, CDIN 42720, HIST 50500

NEHC 42800. The Book of Kings: Seminar. 100 Units.

Equivalent Course(s): BIBL 52800

#### NEHC 42906. The Book of Ezekiel. 100 Units.

This text-course will read a representative set of excerpts from The Book of Ezekiel, a unique retrospective account of a prophet's speeches and mimes in the sixth century BCE, around the destruction of Judea and exile of its population. We will treat aspects such as its historical setting, literary frame, real and implied audiences, and mode and mood of prophecy. Instructor(s): Simeon Chavel Terms Offered: Autumn

Prerequisite(s): 1 year biblical Hebrew + 1 course in Hebrew Bible.

Note(s): This course is open to undergrads ONLY by Petition.

Equivalent Course(s): BIBL 42906, HIJD 42906

# NEHC 43500. Islamic Jurisprudence, Reason, and the State. 100 Units.

This course will examine anthropological approaches to the study of Islamic jurisprudence and its transformations in the modern context. This may be of interest to students interested in both Sunni and Shi'i jurisprudence, though the emphasis will be on Twelver Shi'i legal reasoning.

Instructor(s): Elham Mireshghi Terms Offered: Autumn

Prerequisite(s): Students should be familiar with Anthropological approaches to the study of both Islam and the state. Note(s): This course is open to undergrads ONLY by Petition.

Equivalent Course(s): ANTH 42815, AASR 43500, ISLM 43500

# NEHC 44602. Song of Songs. 100 Units.

In this text-course we will read the entire poetic composition, drawing on theory of literature in general and poetry in particular, tracing its unique forms of continuity, and analyzing its biblically distinctive forms of gender characterization. Instructor(s): Simeon Chavel Terms Offered: Spring

Prerequisite(s): prerequisite: 1 year biblical Hebrew/ BIBL 33900 and BIBL 34000

Note(s): This is the Biblical Hebrew exegesis course.

Equivalent Course(s): RLST 24602, GNSE 24603, HIJD 44602, BIBL 44602, GNSE 44603

# NEHC 45516. Seminar: State and Society under the Ptolemies. 100 Units.

Recent research encourages a reexamination of the classical opposition between pre-modern and modern states. As traditionally defined, the key difference would be the inability of a pre-modern state to exercise in-depth control of society. Being unable to develop a significant bureaucratic apparatus, a pre-modern state could have only achieved a weak control of the people it administered. To a certain extent, the opposition still has some validity, but the alleged "weakness" of pre-modern states, for instance in terms of capacity for extraction of revenue, should be revisited. Thanks to the sources available, the Ptolemaic possessions (by which one will understand not only Egypt but all the other territories under Ptolemaic control, from Asia Minor to Syria and from Cyrene to Cyprus) provide an ideal case study to test these concepts. We will examine written documents in their original languages, but translations will also be provided, which will allow students who do not control the ancient languages to also participate in the seminar. Equivalent Course(s): HIST 70407, ANCM 45516

Equivalent Course(s). This 1 70407, 74 Velvi

#### NEHC 48603. Talking Birds and Cunning Jackals: A Survey of Indo-Persian Prose. 100 Units.

South Asia was a major source of narrative matter for the development of literary prose in the Islamicate world. For instance, literary prose in Arabic, but also in Persian (and Castilian) were fashioned through successive renderings of the Sanskrit Pan#catantra. Later, in the post-Timurid period, South Asian Persianate literati, and munshis in particular, contributed to elevate the status of Persian prose to that of poetry. This course offers a survey of a variety of Indo-Persian prose texts such as tales, premodern translations of Indian romances and epics (Mah#bh#rata, R#m#ya#a, Pan#catantra, M#dhav#nala K#makandal#, etc ...), letters, anecdotes from chronicles, tadhkira literature, autobiographical writings, treatises, and encyclopedic works. The readings are organized thematically and by degree of stylistic elaboration. We will first read plain prose texts that will introduce the students to key elements of the Persianate understanding of Indiav works, and d#st#ns). We will then turn to epistolography, biographies, and autobiographical writings. Finally, we will read technical and non-technical texts dealing with various aspects of Indo-Persian courtly culture and aesthetics (philosophy, mysticism, grammar, poetry, or musicology). Each text will be introduced and framed by discussions on relevant secondary literature in English and Persian.

Instructor(s): T. D'Hubert Terms Offered: Autumn Prerequisite(s): Intermediate level of Persian Equivalent Course(s): SALC 48603, PERS 48693

#### NEHC 48610. Jewish Sufism. 100 Units.

During the Middle Ages the Jews in the Muslim world developed a robust synthesis of Jewish Spirituality and Islamic Sufism. Even those who did not subscribe to a Sufi pietistic Judaism nevertheless introduced Sufi language and ideas into their Jewish thought. This course will introduce several important figures in this Jewish Sufi movement, from Bahya ibn Paquda in 11th-century Spain to Maimonides and his descendants in 12th14th century Egypt. There will be a section for Arabists to read Bahya's "Duties of the Hearts" in Arabist, and a section for Hebraists to read the twelfth-century Hebrew translation of it.

Instructor(s): James T. Robinson Terms Offered: Winter

Equivalent Course(s): HIJD 48610, ISLM 48610, RLVC 48610, MDVL 28610, NEHC 28611, JWSC 28610, RLST 28611

#### NEHC 49000. Thesis Research: Nehc. 100 Units.

Students may register for this course while conducting research for the MA thesis. Students need to obtain permission of their advisor and contact the department coordinator for assistance in registration.

# Near Eastern Languages Courses

#### NELG 30301. Introduction to Comparative Semitics. 100 Units.

This course examines the lexical, phonological, and morphological traits shared by the members of the Semitic language family. We also explore the historical relationships among these languages and the possibility of reconstructing features of the parent speech community.

Instructor(s): R. Hasselbach-Andee Terms Offered: Autumn

Prerequisite(s): Knowledge of two Semitic languages or one Semitic language and Historical Linguistics. Equivalent Course(s): NELG 20301

#### NELG 40301. Advanced Seminar: Comparative Semitic Linguistics. 100 Units.

This course is an advanced seminar in comparative Semitics that critically discusses important secondary literature and linguistic methodologies concerning topics in the field, including topics in phonology, morphology, syntax, etc. Instructor(s): R. Hasselbach-Andee Terms Offered: Winter

Prerequisite(s): Introduction to Comparative Semitics. Undergraduates require consent of instructor. Equivalent Course(s): NELG 20901

#### Persian Courses

#### PERS 48693. Talking Birds and Cunning Jackals: A Survey of Indo-Persian Prose. 100 Units.

South Asia was a major source of narrative matter for the development of literary prose in the Islamicate world. For instance, literary prose in Arabic, but also in Persian (and Castilian) were fashioned through successive renderings of the Sanskrit Pan#catantra. Later, in the post-Timurid period, South Asian Persianate literati, and munshis in particular, contributed to elevate the status of Persian prose to that of poetry. This course offers a survey of a variety of Indo-Persian prose texts such as tales, premodern translations of Indian romances and epics (Mah#bh#rata, R#m#ya#a, Pan#catantra, M#dhav#nala K#makandal#, etc ...), letters, anecdotes from chronicles, tadhkira literature, autobiographical writings, treatises, and encyclopedic works. The readings are organized thematically and by degree of stylistic elaboration. We will first read plain prose texts that will introduce the students to key elements of the Persianate understanding of Indiav works, and d#st#ns). We will then turn to epistolography, biographies, and autobiographical writings. Finally, we will read technical and non-technical texts dealing with various aspects of Indo-Persian courtly culture and aesthetics (philosophy, mysticism, grammar, poetry, or musicology). Each text will be introduced and framed by discussions on relevant secondary literature in English and Persian.

Instructor(s): T. D'Hubert Terms Offered: Autumn Prerequisite(s): Intermediate level of Persian Equivalent Course(s): NEHC 48603, SALC 48603

#### Sumerian Courses

# SUMR 30401. A School in Nippur. 100 Units.

Using the original tablets excavated by the Oriental Institute in Nippur, we will read different texts found in House F, an Old Babylonian School. The class will include introductions to typical genres like lexical texts, model contracts, and literary school texts.

Instructor(s): Susanne Paulus Terms Offered: Winter Prerequisite(s): 1 year of Sumerian Equivalent Course(s): SUMR 20401

#### Turkish Courses

# TURK 30101-30102-30103. Advanced Turkish I-II-III.

The objectives of the course are to develop advanced language skills in Modern Turkish through reading, writing, listening, and speaking, with special emphasis on the proper usage of vocabulary and idiomatic expressions, and to continue the study of Turkish literature and texts begun in the second year. This course is conducted entirely in Turkish. The course is designed to bring the advanced student to a professional level of proficiency. Students are expected to produce advanced level writing in Turkish.

# TURK 30101. Advanced Turkish I. 100 Units.

Advanced Turkish students will develop their language skills in speaking, reading, translating, listening, and writing, while learning about Turkish society and culture at the same time. To address all of these aspects each class is divided into three sections which focuses on a specific skill. Section one is the conversation part: it involves reading (or listening to) short (audio) pieces or phrases on a given topic; section two is reading and translation: students read and prepare pieces from Turkish literature, literature readings are short stories or selected parts from novels; section three is the listening part: by watching parts of a Turkish movie, students' skills in listening and understanding will get faster while we progress through the movie.

Instructor(s): Kagan Arik Terms Offered: Autumn

#### TURK 30102. Advanced Turkish II. 100 Units.

Advanced Turkish students will develop their language skills in speaking, reading, translating, listening, and writing, while learning about Turkish society and culture at the same time. To address all of these aspects each class is divided into three sections which focusses on a specific skill. Section one is the conversation part: it involves reading (or listening to) short (audio) pieces or phrases on a given topic; section two is reading and translation: students read and prepare pieces from Turkish literature, literature readings are short stories or selected parts from novels; section three is the listening parts of a Turkish movie, students' skills in listening and understanding will get faster while we progress through the movie.

Instructor(s): Helga Anetshofer Terms Offered: Spring

# TURK 30103. Advanced Turkish III. 100 Units.

Advanced Turkish students will develop their language skills in speaking, reading, translating, listening, and writing, while learning about Turkish society and culture at the same time. To address all of these aspects each class is divided into three sections which focuses on a specific skill. Section one is the conversation part: it involves reading (or listening to) short (audio) pieces or phrases on a given topic; section two is reading and translation: students read and prepare pieces from Turkish literature, literature readings are short stories or selected parts from novels; section three is the listening part: by watching parts of a Turkish movie, students' skills in listening and understanding will get faster while we progress through the movie.

Instructor(s): K. Arik Terms Offered: Spring

#### TURK 30200. Colloquium: Sources for the Study of the Ottoman World. 100 Units.

This course introduces the students the major sources for the study of Ottoman history and culture. Instructor(s): Hakan Karateke Terms Offered: Autumn

#### TURK 30201. Colloquium: Sources for the Study of Ottoman World 2. 100 Units.

This course is the second part of a seminar series to introduce students to the major sources for the study of Ottoman history and culture.

Instructor(s): Hakan Karateke Terms Offered: Winter Prerequisite(s): TURK 30200

# TURK 30350. Readings in Ottoman Court Records. 100 Units.

This course introduces the students to the scholarship on and the original texts of Ottoman court records. Thousands of registers with millions of court cases covering the period from the sixteenth century to modern times have survived to date. These documents are celebrated by modern historians as exceptional snapshots into the daily lives of common people. Monday sessions are reserved for the discussion of secondary literature; we will read from the original court records on Fridays.

Instructor(s): Hakan Karateke Terms Offered: Winter Prerequisite(s): Some exposure to Ottoman texts Equivalent Course(s): TURK 20350

# TURK 30501-30502-30503. Ottoman Turkish I-II-III.

A selection of Turkish texts in Arabic script, both printed and handwritten, introduced in order of difficulty, and ranging from the fourteenth to the nineteenth centuries. Texts are drawn from chronicles, official documents, memoirs, poetry, and other genres.

# TURK 30501. Ottoman Turkish I. 100 Units.

A selection of Turkish printed texts in Arabic script from the nineteenth and twentieth centuries is introduced in order of difficulty. Hakan Karateke's unpublished "Ottoman Reader" serves as a text book. The texts are drawn from historical textbooks, official documents, novels, and other genres. Instructor(s): H. Aneshofer-Karateke Terms Offered: Autumn Prerequisite(s): 2 years of Turkish, or equivalent

# TURK 30502. Ottoman Turkish II. 100 Units.

A selection of Turkish printed texts in Arabic script from the nineteenth and twentieth centuries is introduced in order of difficulty. Hakan Karateke's unpublished "Ottoman Reader" serves as a text book. The texts are drawn from historical textbooks, official documents, novels, and other genres. Instructor(s): H. Aneshofer-Karateke Terms Offered: Winter Prerequisite(s): TURK 30501

# TURK 30503. Ottoman Turkish III. 100 Units.

A selection of Turkish printed texts in Arabic script from the nineteenth and twentieth centuries is introduced in order of difficulty. Hakan Karateke's unpublished "Ottoman Reader" serves as a text book. The texts are drawn from historical textbooks, official documents, novels, and other genres. Instructor(s): H. Aneshofer-Karateke Terms Offered: Spring Prerequisite(s): TURK 30502

# TURK 49901. Reading and Research in Old Turkic. 100 Units.

Independent study in Old Turkic. Terms Offered: Autumn Spring Winter

Ugaritic Courses

# Uzbek Courses

UZBK 49900. Reading and Research Course: UZBK. 100 Units. Reading and Research Course: UZBK



# Department of Philosophy

Department Website: http://philosophy.uchicago.edu Chair

Michael Kremer

Professors

- Matthew Boyle
- Daniel Brudney
- James Conant
- Arnold Ira Davidson, Divinity
- Michael Kremer
- Gabriel Richardson Lear, Social Thought
- Jonathan Lear, Social Thought
- Martha C. Nussbaum, Law
- Robert Pippin, Social Thought
- Robert J. Richards, History
- Candace A. Vogler

Associate Professors

- Jason Bridges
- Agnes Callard
- Kevin Davey
- David Finkelstein
- Anton Ford
- Anubav Vasudevan
- Malte Willer

Assistant Professors

- Matthias Haase
- Daniel Moerner
- Thomas Pashby
- Ginger Schultheis

Lecturers

- Benjamin Callard
- Ben Laurence
- Bart Schultz
- Lisa Van Alstyne
- Tyler Zimmer

Emeritus Faculty

- Howard Stein
- Josef J. Stern
- William W. Tait
- William C. Wimsatt

The programs in philosophy are designed to develop skill in philosophical analysis, to enable the student to think clearly, systematically, and independently on philosophical issues, and to achieve a thorough acquaintance with major classics and contemporary works in philosophy. Philosophy classes are conducted so that students may develop philosophical skills by class discussions and by the writing of carefully directed papers.

The following is an outline of the main features of the graduate program. For full details, please write the Department of Philosophy directly.

# Graduate Degrees

The graduate program in philosophy is primarily a doctoral program. Admission as a graduate student normally implies that, in the opinion of the department, the student is a promising candidate for the Ph.D. degree. The Master of Arts degree, however, may be awarded to students in the program who meet the requirements specified below.

The application process for admission and financial aid for all graduate programs in the Division of the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/ admissions (http://humanities.uchicago.edu/students/admissions/).

Questions about admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Current minimum scores, etc., are provided with the application. For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu, or call them at (773) 702-7752.

Students admitted to doctoral study are typically awarded a five-year fellowship package that includes full tuition, academic year stipends, summer stipends, and medical insurance. Teaching training is a vital part of the educational experience at the University, so all fellowships include a required teaching component.

# The Degree of Master of Arts

The objective of the program is the Ph.D. degree. Students seeking a master's degree should apply to the Master of Arts Program in the Humanities (MAPH), a three-quarter program of interdisciplinary study in a number of areas of interest to students. Further details about the MAPH program are available at http://maph.uchicago.edu/

Doctoral students who are enrolled in a Ph.D. program at the University of Chicago may receive an M.A. in Philosophy. These can be either:

- Doctoral students in another discipline who seek a "secondary" M.A. in Philosophy, in conjunction with their doctoral studies in that other discipline; or
- Doctoral students in Philosophy who want to receive the M.A.

The requirements for the degree are the same in either case. The requirements can be satisfied entirely by course-work; no thesis is required. They are specified in five clauses:

- Quality: No course for which the student received a grade lower than a B+ will satisfy any requirement for the M.A.
- Level: Only courses taken at the graduate level (that is, with a course-number of 30000 or higher) can satisfy any
  requirement for the M.A.
- Quantity: The student must complete at least eight courses in Philosophy at the University of Chicago. (Reading
  and research courses do not count toward satisfying this requirement, nor do courses taken pass/fail—except the firstyear seminar, which counts as one course if passed.)
- Distribution: The student must have taken at least one designated course in each of the Philosophy Department's five "areas" namely:
  - Area I: Value theory
  - Area II: Philosophy of science, philosophy of language, and logic
  - Area III: Epistemology and metaphysics
  - Area IV: Ancient or Medieval philosophy
  - Area V: Modern philosophy (17th-19th centuries)

Elementary Logic: The student must demonstrate competence in elementary logic. This can be achieved by an
interview in which the candidate satisfies one of the Department's logicians that he or she has the required competence,
or by taking the Elementary Logic course (PHIL 30000 Elementary Logic), or any more advanced logic course offered
by the Department. Philosophy 30000 can count as one of the minimum eight courses, but it does not satisfy the Area II
requirement. A more advanced logic class does both.

# Application Procedure

Doctoral Students in the Department of Philosophy may apply for the M.A. at any time after they have completed the requirements. 1. Contact the Department Coordinator so that the proper paperwork is submitted verifying your courses (above) and 2. contact the office of the Humanities Dean of Students in order to gain access to the degree application in http://my.uchicago.edu. Keep your expected graduation date set to the date you anticipate receiving the Ph.D.

Students in a Ph.D. program at the University of Chicago in a department other than Philosophy who wish to receive a "secondary" M.A. in Philosophy must first apply for admission to the M.A. program in the department of Philosophy. No student can apply unless she has taken at least three Philosophy courses, and it is expected that the student will apply soon after completing that number of courses. To initiate the application process, the student should set up an

appointment with the Assistant Dean of Students for Admissions in the Division of Humanities who will direct the student through the required paperwork and obtain:

- The applicant's transcript of courses taken for the B.A.
- His/Her GRE scores
- A transcript of the applicant's courses at the University of Chicago taken up to the time of the application.
- A sample of her best philosophical writing. This may but need not be a paper written for one of the applicant's already completed Philosophy courses at the University.
- A brief letter from the chair or director of graduate studies of the applicant's home department supporting the application. The letter should explain why the student is seeking an M.A. in philosophy to complement her doctoral studies.
- Names of two faculty in the Dept. of Philosophy who can comment on work done by the applicant and on her philosophical potential.
- A statement by the applicant that explains why she is seeking an M.A. in Philosophy.

# The Degree of Doctor of Philosophy

The divisional and University requirements for the Ph.D. degree must be fulfilled. Departmental requirements are as follows:

# **Course Requirements**

The Course Requirement has seven parts concerning:

- The number of required courses
- The distribution of required courses
- The logic requirement
- Required progress
- Policies concerning incompletes
- Grades
- Transfer credits

# Number of required courses

Students must complete at least twelve courses in their first two years of study: the first year seminar and eleven graduate courses.

First-year students must enroll in the first-year seminar. The exact organization and scheduling varies from year to year according to the instructor's discretion. It is graded on a pass-fail basis.

In addition, eleven graduate courses must be completed with a grade of B or better:

- At least ten of these courses must be in the Philosophy Department listings;
- · Reading and research courses do not count among these eleven classes
- At least one must be a graduate seminar in Philosophy

# Distribution of required courses

Students are required to take one course in each of the following three areas of contemporary philosophy:

- Value theory (listed in the course descriptions as I)
- Philosophy of science, philosophy of language, and logic (listed in the course descriptions as II)
- Epistemology and metaphysics (listed in the course descriptions as III)

and three courses on the history of philosophy as follows:

- A figure or movement in either Ancient or Medieval Philosophy (listed in the course descriptions as IV)
- A figure or movement in Modern Philosophy from the 17th through 19th centuries (listed in the course descriptions as V)
- One additional course on a figure or movement in either IV or V.

It should be noted that not all graduate courses satisfy a field distribution requirement; those not classified in the published course descriptions as belonging to I-V cannot be used to satisfy the distribution requirement. Nor can Philosophy 30000 (Elementary Logic) be used to satisfy a field distribution requirement.

# Logic requirement

There is a requirement in logic that can be satisfied in several ways.

• By passing PHIL 30000 Elementary Logic with a grade of B or higher.

Philosophy 30000 is offered every Autumn quarter. It counts toward the twelve course requirement but does not satisfy the field II distribution requirement.

By passing a course equivalent to or better than Philosophy 30000 (Elementary Logic), at another institution or in
another department at Chicago, with a grade of B+ or higher. The equivalence of the course in question to Philosophy
30000 will be determined by the instructor in Philosophy 30000 in the year in question, on the basis of an interview
with the student, and such evidence as the syllabus for the course, the textbook for the course, and any other course
materials which the student can provide. Note that satisfying the logic requirement in this way will count neither
towards one of the twelve required courses nor towards satisfying the field II distribution requirement.

By passing an advanced graduate course in logic with a grade of B or higher.
 Passing an advanced graduate course in logic would both satisfy the logic requirement and count towards the field II distribution requirement.

#### Required progress

Courses must be completed, with a grade of B or better, according to the following timetable.

- Two courses should be completed by the beginning of the Winter quarter of the first year
- Four courses (at least three in the Philosophy Department) should be completed by the beginning of the third quarter
- Six courses should be completed by 30 September of the second year
- Ten courses should be completed by the end of the fifth quarter
- All twelve courses (eleven plus the first year seminar) must be completed by 30 September following the sixth quarter.

In addition to this timetable, students should keep in mind that because they are expected to be working on their Revision Workshop during Spring Quarter of their second year in the PhD program, they would be ill-advised not to have completed all but one their course requirements by that quarter.

#### Incompletes

At the discretion of the instructor, coursework not completed on time may be regarded as an "incomplete." This means that the instructor will permit a student to complete the work for a course after the normal deadline.

The instructor sets the time period for completion of the incomplete, subject to the following limitation: all coursework must be submitted by September 30th following the quarter in which the course was taken in order to count toward fulfillment of the requirements for the M.A. and Ph.D. This date is an absolute deadline and is not subject to further extensions by individual faculty members.

Note: Students in their first year in the program are not permitted to take any incompletes in their first quarter.

#### Grades

Satisfactory grades for work toward the Ph.D. in Philosophy are A, A-, B+, and B.

For Philosophy faculty, those grades mean the following. A: pass with distinction; A-: high pass; B+: pass; B: low pass.

#### Transfer Credits

The following policy applies to the Philosophy Ph.D. program. Special requirements of joint programs take precedence over this policy.

- 1. Of the required 11 graduate courses, no more than 1 can be taken at the University, but outside the Philosophy Department.
- 2. Of the required 11 graduate courses, no more than 2 can be transferred from other institutions.
- 3. Of the required 11 graduate courses, at least 9 must be taken within the Philosophy Department's course offerings.
- Only courses taken while enrolled in a doctoral program in Philosophy can be counted towards the required 11 graduate courses.

For example, a student might transfer 2 course from another institution and take one course from another department within the University, with the remaining 9 courses taken within the Philosophy Department. Or a student might transfer 2 courses from another institution, with the remaining 9 courses taken within the Philosophy Department.

Students wishing to obtain credit for graduate courses taken from the listings of other departments within the University toward the required 11 courses do not need to petition the department, within the two-course limit specified above.

Students wishing to obtain transfer credit for courses taken at other institutions must petition the Graduate Program Committee. Students should be prepared to provide evidence in support of their transfer application at the request of the Committee. Such evidence may include course descriptions, syllabi, assignments, written work completed for the course, and so on. Students who are transferring from other graduate programs must make such a request upon their entry into the Philosophy Department. Students who take a course at another institution while enrolled in the PhD program should consult with the Director of Graduate Studies beforehand, but must still petition the Graduate Program Committee to have the course accepted for transfer credit upon completion of the course.

Note that elementary logic courses taken outside the department may fulfill the elementary logic requirement but may not be used to meet the 11 course requirement. See "Logic Requirement" above for further details.

#### Foreign Language Exam

All students must pass an examination in French, German, Latin, or Greek by the end of Spring quarter of the fourth year or before the topical examination, whichever comes first. (There is a special rule for students who wish to write theses on ancient Greek or Roman philosophy; this is detailed below).

There are two kinds of language examinations: those administered by the Department and those administered by the University. Departmental language exams will be given twice a year and may not be taken more than twice.

Students who take the University language examination must receive a "High Pass." These are offered every quarter and there is a fee for taking them.

There is a special requirement for those working in ancient philosophy or German philosophy, since work in these fields depends heavily on one's ability to use the relevant languages.

Any student intending to write a thesis on ancient philosophy must pass the Departmental or University exam in Greek (the latter with a "High Pass"). Any student intending to write a thesis on Hellenistic or Roman philosophy must also pass the Departmental or University exam in Latin (the latter with a "High Pass"). Any student intending to write a thesis on German philosophy must pass the Departmental or University exam in German with a 'High Pass'.

Such students may take the Departmental exam in Greek or Latin or German a maximum of three times (as opposed to two times, which is the rule for other languages).

#### Revision Workshop

In the spring of their second year, all PhD students register for the Revision Workshop, taught by the current Director of Graduate Studies. In this course, students will present, discuss, and revise one of the papers they have written in their first two years in the graduate program. This paper will then be submitted to the department late in the spring as a sample of their best work. The final essay should be no longer than 8,000 words. The department will then review the paper as part of its evaluation whether the student has sufficient promise to proceed from coursework to the next stage of the program.

#### Topical Workshop

In their third year, students will take a Topical Workshop, which meets intermittently in both Autumn and Winter Quarters. In this workshop, students present and discuss materials they will use in their Topical Examination, such as dissertation proposals and chapter drafts. The purpose of this workshop is to help students pass their subsequent Topical Examination and advance quickly to PhD candidacy.

#### Topical Examination

Following the Revision Workshop, students begin work toward their dissertations. During the Winter and Spring quarters of their third year, they should be meeting with various faculty members to discuss and refine possible dissertation topics, and possible dissertation committees.

By the end of their third year, and at the latest at the beginning of their fourth year, students will establish, with their prospective dissertation committee, concrete plans for the Topical Examination. Those plans will include: (1) a determination of the dissertation committee, (2) the expected character of the materials to be submitted by the student on which the Topical Examination will be based, and (3) the expected date of the Topical Examination. Though the details will vary (depending on the subject matter, the state of the research, etc.), the materials must include a substantial new piece (around 25 double-spaced pages) of written work by the student. This could be a draft of a chapter, an exposition of a central argument, a detailed abstract (or outline) of the whole dissertation, or whatever the committee as a whole agrees upon.

The Topical Examination is an oral examination administered by the members of a student's dissertation committee with the aim of evaluating the viability of the proposed dissertation project and the student's ability to complete it within a reasonable amount of time. Students will be admitted to PhD candidacy **only** after they have officially passed their Topical Examination. The Department's normal expectation is that students will have advanced to candidacy (including passing their Topical Examination and their language examination(s)) by the end of their of their 11th quarter (normally the Winter quarter of their fourth year). Note: students must have scheduled their Topical Examination by the end of the fifth year) to remain in the Program.

Students cannot take their Topical until they have met all other program requirements including passing their foreign language exam or exams. Students must finish their language exams by the end of their fourth year in the program (independently of their status with regard to any other requirements).

The Department requires that each student submit a written progress report on his or her progress by the end of the winter quarter of each year, beginning with his or her fourth year in the program. The report should be submitted to the Director of Graduate Studies and (after the Topical) to the student's dissertation committee. In addition to this report, students who have advanced to candidacy must submit a substantial piece of new writing (25-30 pages in length) to the chair of their dissertation committee. The student will be notified whether or not he or she is making good progress following the annual review meetings in Spring.

It is very much in each student's own interest to be well along with his or her dissertation early in the fifth year, for several related reasons. First, of course, all students are obligated to teach a stand-alone course that year as part of their GAI teaching requirements. This is inevitably time and energy consuming. Second, GAI funding runs out at the end of that year; and some students will not get any more support from the University. And, finally, such sixth-year support as there is from the University is systematically directed to those applicants whose work is not only of the best quality, but also the furthest along (as documented not only by faculty testimonials but also by submitted chapters). Keep in mind also that so-called 'dissertation-year fellowships' are awarded competitively on a Division-wide basis, and there are not enough to go around. Though Philosophy students have often done well in this competition, there is no guarantee for the future; and, in any case, not all applications will be successful.

To be sure, supporting oneself without aid, while finishing up a dissertation, is a time-honored academic tradition. But, for most students, the available opportunities are far from deluxe (either inside or outside the University), and it is clearly wise to minimize one's dependence on them, if possible.

NOTE: The Department Coordinator must be informed of the date and time of your Topical Exam, and documentation of the Topical. This is so that department and university can record the exam and admit the student to candidacy. Students need to email the Department Coordinator the names of the members of the committee, the sample chapter on which the Topical examination is based, and the working title of the dissertation.

#### Teaching Requirements

The Philosophy Department views the development of teaching competence as an integral part of its overall Ph.D. program and takes various steps to train its doctoral students to become excellent teachers of philosophy. It offers different types of teaching opportunities, which gradually prepare its students to teach their own classes. These opportunities are enhanced by the department's pedagogical support through individual faculty mentorship and year round discipline-specific pedagogical events offered through its pedagogy program (http://philosophy.uchicago.edu/graduate/pedagogy.html). The first teaching opportunities come in the form of course assistantships. The professor responsible for the course in which a doctoral student serves as an assistant is also responsible for monitoring the doctoral student's teaching progress in that course and preparing a written report of her teaching performance therein. Once a doctoral student has proven herself as a teaching assistant, she is permitted to do stand-alone teaching. In these cases, too, however, the design of the syllabus of the course is developed in consultation with a member of the faculty. Here, too, that faculty member is responsible for further monitoring the doctoral student's teaching progress over the duration of the stand-alone course and preparing a written report of her teaching progress over the duration of the stand-alone course and preparing a written report of her teaching progress over the duration of the stand-alone course and preparing a written report of her teaching progress over the duration of the stand-alone course and preparing a written report of her teaching progress over the duration of the stand-alone course and preparing a written report of her teaching progress over the duration of the stand-alone course and preparing a written report of her teaching progress over the duration of the stand-alone course and preparing a written report of her teaching progress over the duration of the stand-alone course and preparing a written re

The initial guaranteed funding for five years awarded to students admitted to the program includes a teaching obligation. That obligation standardly takes the form of the student serving four times as an instructor -- usually three times as a course assistant and once as an instructor of a stand-alone course. Normally, students complete one teaching assistantship in their third year, after completion of the Preliminary Essay, and two in their fourth year. Normally, students give their stand-alone course in the fifth year. These first four teaching stints are not further compensated: they are a component of the five-year fellowship package. This four-time teaching obligation is a requirement of the Department of Philosophy's Ph.D. program.

These first four teaching opportunities are built into the basic requirements of the Ph.D. program in order to ensure that students in the program acquire a certain minimum degree of teaching competence. However, the Department views the teaching obligation as a bare minimum with regard to teaching preparation. Doctoral students in the program are encouraged to do more teaching in the later years.

The Department's primary responsibility with respect to doctoral students is to support their work toward the doctoral degree. Teaching preparation is a crucial aspect of that responsibility and any additional teaching must be consistent with timely progress toward the doctoral degree. Accordingly, the policy on teaching beyond the departmental teaching obligation is as follows:

- In Years 1 & 2, when doctoral students are expected to satisfy their course and logic requirements as well as to formulate topics, find readers, and begin research toward their Preliminary Essays, doctoral students are not given departmental teaching and will not be permitted to accept extra-departmental teaching. The students may, however, complete the Training Course for Writing Interns and Lectors offered by the University of Chicago Writing Program before Autumn of Year 3.
- 2. In Years 3-5, students may petition the DGS for permission to apply for extra teaching. If, and only if, the following conditions are met, the Department (normally through the DGS) may petition the Dean of Students in the Humanities and the Master of the Humanities Collegiate Division to allow the student to apply for extra-departmental teaching:
  - a. The student is making exemplary progress toward the degree in Philosophy (that is, the student has met every deadline set in the time to degree expectations and the students' work toward the degree is strong).
  - b. There is a sound pedagogic reason to allow the student to seek extra teaching.
  - c. In Year 6, students will be expected to teach as CAs in two departmental classes.
- 3. Students must make their petitions to the DGS by the second week of the term prior to the term in which they hope for extra-GAI teaching—students must make their petitions by the second week of Spring quarter for extra teaching in

Autumn, by the second week of Autumn quarter for extra teaching in Winter, and by the second week in Winter quarter for extra teaching in Spring. The Department must make its petition to the DOS and Master of the HCD by the end of the third week of the term prior to the term in which students seek extra-GAI teaching.

- 4. If the DOS and the HCD approve the Department's petition, and if the students are offered extra teaching
- appointments, funding for these positions cannot be drawn from the students' fellowship teaching obligation monies. 5. Extra teaching permissions may be withdrawn if students cease to make exemplary progress toward their degrees.

Petitions to the DOS and Master of the HCD will attest to the students' progress and provide the rationale for allowing these students to seek teaching beyond the departmental teaching obligation.

Students do not need departmental permission to seek extra teaching assignments after their fifth year of residence.

Over the course of a doctoral student's career, that student together with the Department builds a teaching dossier, containing the syllabuses of the courses that she has taught, written reports by faculty teaching mentors on those courses, and last but not least, undergraduate evaluations of those courses. When doctoral students prepare to go on the job market, the Department sees to it that one member of the faculty undertakes the responsibility of writing a teaching letter for the student that documents and surveys the highlights of her teaching career at the University of Chicago.

The Department of Philosophy offers a non-credit and not required Pedagogy Program for PhD students. For more information, click here (http://philosophy.uchicago.edu/graduate/pedagogy.html).

#### Dissertation and Final Oral Exam

Students must inform their committee members of their intention to schedule a defense during the term PRIOR to the term in which they plan to defend. Committee members will consult concerning whether the dissertation is in sufficiently final form to warrant the fixing of a date for the oral examination. Committee members will normally have seen the bulk of the work of the dissertation before making this judgment. Students should consult with their Dissertation Director and other Committee members about the amount of material they will need to see, the state of completion needed, and the time required for this judgment to be made. When the Dissertation Committee judges that the student is ready to defend, the student must coordinate with the Dissertation Committee and the Department Co-ordinator to settle the date and time for the dissertation.

Students should consult with their Committee concerning a precise deadline for submission of the final draft of the dissertation for the defense. This is normally several weeks to a month before the defense date. Students should be aware that, in practice, in order to graduate in a given quarter, the final draft of the dissertation must be submitted to the Dissertation Committee in the first week or two of that quarter, so that the defense can take place prior to the Library's deadline for submitting the final form of the dissertation, leaving time for any necessary revisions noted during the defense. For information regarding the precise deadline by which your approved dissertation must be submitted in a given quarter for the degree to be granted in that same quarter, please click here (http://www.lib.uchicago.edu/e/phd/deadlines.html). Note also that an exam cannot be scheduled for at least two weeks after the formal request has been submitted.

The defense must take place at the University of Chicago, preferably in the Autumn, Winter, or Spring quarters. Summer defenses are scheduled at the discretion of the student's Dissertation Committee.

The student and at least one member of the Dissertation Committee must be physically present at the defense.

The student should submit, within the timeline notes, to the Department Coordinator:

- the scheduled date, time, and the members of the committee, and any special room requirements, at least 3 weeks prior, or as soon as the date and time are settled
- an electronic copy (.doc or .docx) of a 1-2 paragraph abstract, at least 3 weeks prior
- an electronic copy of a 10-page abstract of the dissertation, at least 2 weeks prior

The final oral exam is a public event. The examining committee consists of the members of the dissertation committee, along with an appointed member of the Humanities Division faculty who serves as a representative of the Dean's Office. Other faculty and graduate students from the Philosophy Department may and generally do attend. Family members of the doctoral candidate and other members of the general public are also welcome.

If a student passes, then it is customary in the final phase of the exam for the members of the student's dissertation committee to request a final round of revisions to the dissertation. The final granting of the degree is conditional upon the completion of these final revisions. These are to be made promptly after the exam and prior to the formal submission of the PhD document. After the dissertation is submitted, the student is required to provide each member of the dissertation committee with an electronic version of the document in its final form.

Director of Graduate Studies

Kevin Davey

Director of Undergraduate Studies

Anton Ford

# Philosophy Courses

# PHIL 30000. Elementary Logic. 100 Units.

An introduction to the concepts and principles of symbolic logic. We learn the syntax and semantics of truth-functional and first-order quantificational logic, and apply the resultant conceptual framework to the analysis of valid and invalid arguments, the structure of formal languages, and logical relations among sentences of ordinary discourse. Occasionally we will venture into topics in philosophy of language and philosophical logic, but our primary focus is on acquiring a facility with symbolic logic as such.

Instructor(s): Autumn 2020: G. Schultheis; Winter 2021: M. Kremer Terms Offered: Autumn Winter Equivalent Course(s): PHIL 20100, LING 20102, HIPS 20700, CHSS 33500

#### PHIL 30116. American Pragmatism. 100 Units.

This course is a first introduction to American Pragmatism. We will examine some of the seminal philosophical works of the three most prominent figures in this tradition: Charles Sanders Peirce, William James, and John Dewey. Our main aim will be to extract from these writings the central ideas and principles which give shape to pragmatism as a coherent alternative to the two main schools of modern philosophical thought, empiricism and rationalism. (B) (III) Instructor(s): A. Vasudevan Terms Offered: Autumn

Equivalent Course(s): PHIL 20116

# PHIL 30210. Kant's Ethics. 100 Units.

In this course we will read, write, and think about Kant's ethics. After giving careful attention to the arguments in the Second Critique, portions of the Third Critique, the Groundwork of the Metaphysics of Morals, the Metaphysics of Morals, and several other primary texts, we will conclude by working through some contemporary neo-Kantian moral philosophy, paying close attention to work by Christine Korsgaard, David Velleman, Stephen Engstrom, and others. (A) (I) Instructor(s): C. Vogler Terms Offered: Autumn

Equivalent Course(s): PHIL 20210, FNDL 20210

#### PHIL 30506. Philosophy of History: Narrative & Explanation. 100 Units.

This lecture-discussion course will focus on the nature of historical explanation and the role of narrative in providing an understanding of historical events. Among the authors discussed are Edward Gibbon, Immanuel Kant, R. G. Collingwood, Leopold von Ranke, Lord Acton, Fernand Braudel, Carl Gustav Hempel, Arthur Danto, and Hayden White. (III) Instructor(s): R. Richards Terms Offered: Winter

Equivalent Course(s): CHSS 35110, HIST 25110, KNOW 31401, HIPS 25110, PHIL 20506, HIST 35110

#### PHIL 30926. Wonder, Wonders, and Knowing. 100 Units.

In wonder is the beginning of philosophy,' wrote Aristotle; Descartes also thought that those deficient in wonder were also deficient in knowledge. But the relationship between wonder and inquiry has always been an ambivalent one: too much wonder stupefies rather than stimulates investigation, according to Descartes; Aristotle explicitly excluded wonders as objects of inquiry from natural philosophy. Since the sixteenth century, scientists and scholars have both cultivated and repudiated the passion of wonder; ON the one hand, marvels (or even just anomalies) threaten to subvert the human and natural orders; on the other, the wonder they ignite fuels inquiry into their causes. Wonder is also a passion tinged with the numinous, and miracles have long stood for the inexplicable in religious contexts. This seminar will explore the long, vexed relationship between wonder, knowledge, and belief in the history of philosophy, science, and religion. Instructor(s): Lorraine Daston Terms Offered: Spring. Course to be taught Spring 2020

Prerequisite(s): Reading knowledge of at least one language besides English, some background in intellectual history. Consent is required for both grads and undergrads. This course will be taught the first five weeks of the quarter. Equivalent Course(s): HIST 35318, KNOW 30926, SCTH 30926, CHSS 30936

#### PHIL 31002. Human Rights: Philosophical Foundations. 100 Units.

Human rights are claims of justice that hold merely in virtue of our shared humanity. In this course we will explore philosophical theories of this elementary and crucial form of justice. Among topics to be considered are the role that dignity and humanity play in grounding such rights, their relation to political and economic institutions, and the distinction between duties of justice and claims of charity or humanitarian aid. Finally we will consider the application of such theories to concrete, problematic and pressing problems, such as global poverty, torture and genocide. (A) (I)

Instructor(s): B. Laurence Terms Offered: Autumn

Equivalent Course(s): LLSO 21002, HIST 39319, INRE 31602, MAPH 42002, HMRT 31002, HIST 29319, PHIL 21002, HMRT 21002

# PHIL 31102. Opera as Idea and As Performance. 100 Units.

Is opera an archaic and exotic pageant for fanciers of overweight canaries, or a relevant art form of great subtlety and complexity that has the power to be revelatory? In this course of eight sessions, jointly taught by Professor Martha Nussbaum and Anthony Freud, General Director of Lyric Opera of Chicago, we explore the multi-disciplinary nature of this elusive and much-maligned art form, with its four hundred-year-old European roots, discussing both historic and philosophical contexts and the practicalities of interpretation and production in a very un-European, twenty-first century city. Anchoring each session around a different opera, we will be joined by a variety of guest experts, one each week, including a director, a conductor, a designer and two singers, to enable us to explore different perspectives. The list of operas to be discussed include Monteverdi's The Coronation of Poppaea, Mozart's Don Giovanni, Rossini's La Cenerentola, Verdi's Don Carlos, Puccini's Madama Butterfly, Wagner's Die Meistersinger, Strauss's Elektra, and Britten's Billy Budd. (A) (I) Instructor(s): A. Freud; M. Nussbaum Terms Offered: Spring

Prerequisite(s): Remark: students do not need to be able to read music, but some antecedent familiarity with opera in performance or through recordings would be extremely helpful. Ph.D. students in the Philosophy Department and the Music Department and all law students (both J. D. and LL.M.) may enroll without permission. All other students will be selected by lottery up to the number feasible given CA arrangements.

Note(s): Ph.D. students and law students will write one long paper at the end (20-25 pages), based on a prospectus submitted earlier. Other students will write one shorter paper (5-7 pages) and one longer paper (12-15 pages), the former due in week 4 and the latter during reading period.

Equivalent Course(s): MUSI 30716, MUSI 24416, PHIL 21102

# PHIL 31108. Time After Physics. 100 Units.

This course provides a historical survey of the philosophy of time. We begin with the problems of change, being and becoming as formulated in Ancient Greece by Parmenides and Zeno, and Aristotle's attempted resolution in the Physics by providing the first formal theory of time. The course then follows theories of time through developments in physics and philosophy up to the present day. Along the way we will take in Descartes' theory of continuous creation, Newton's Absolute Time, Leibniz's and Mach's relational theories, Russell's relational theory, Broad's growing block, Whitehead's epochal theory, McTaggart's A, B and C theories, Prior's tense logic, Belnap's branching time, Einstein's relativity theory and theories of quantum gravity. (B) (II)

Instructor(s): T. Pashby Terms Offered: Autumn

Equivalent Course(s): HIPS 21108, PHIL 21108, KNOW 21108, CHSS 31108, KNOW 31108

#### PHIL 31214. The Philosophy of Art. 100 Units.

This course is an introduction to the philosophy of aesthetics, with a focus on art and art objects. With respect to art, our questions will include: What is art? What is the point of making art? What is it to appreciate art? (Does discursive knowledge (of the technique, the history of the painting or its subjects, the artist's life, etc.) help or hinder this appreciation?) What is the metaphysical character of art objects (symphonies, paintings, novels, etc.)? What is the ethical status of art? (Were Plato's ethical suspicions about art warranted?) With respect to aesthetics more generally, our questions will include: is beauty in the eye of the beholder? (What is it for something to be in the eye of the beholder?) Does beauty track (or even constitute) scientific truth? If so: why? If not, why have so many mathematicians, physicists, and biologists been preoccupied with the beauty of their theories?

Instructor(s): B. Callard Terms Offered: Winter

Equivalent Course(s): PHIL 21214

#### PHIL 31414. MAPH Core Course: Contemporary Analytic Philosophy. 100 Units.

This course is designed to provide MAPH students with an introduction to some recent and ongoing debates between philosophers working in the analytic tradition. The course is, however, neither a history nor an overview of analytic philosophy. Instead, we will focus on three different debates, spending about three weeks on each, with topics selected from the general areas of epistemology, metaphysics, and ethics.

Instructor(s): M. Kremer Terms Offered: Autumn

Prerequisite(s): This course is open only to MAPH students. MAPH students who wish to apply to Ph.D. programs in philosophy are strongly urged to take this course.

Note(s): The course will be run as a mixture of lecture and discussion. All students should come to class having done the assigned reading and prepared to engage in a productive discussion. Students will write three short papers (6-8 pages) and provide discussion prompts on the Canvas site for the course.

Equivalent Course(s): MAPH 31414

#### PHIL 31509. Practical Rationality. 100 Units.

Humans are said to be rational animals. What does rationality, understood as a capacity, consist in? And what is practical rationality, understood as a qualified way of thinking, feeling, and acting? - In this course we are going to consider a roughly Aristotelian framework for answering these and related questions. The place of reason in human nature is characterized by a complex teleology: its employment is both purpose and instrument. To make use of reason is, centrally, to infer, i.e. to think and act for reasons. The roles of reasons are various: they validate, justify, prompt and guide, explain ... To act on a reason is, typically, to do something for the sake of some end. This is so, in particular, in the context of more or less technical reasoning. But the most basic and ultimate reasons, the ones by heeding which we act justly or unjustly and, more generally, well or badly, seem not to be of this form. How then do they enter the constitution of a good human life? Instructor(s): A. Mueller; C. Vogler Terms Offered: Spring

Equivalent Course(s): PHIL 21509

# PHIL 31720. Aristotle's Nicomachean Ethics. 100 Units.

This course is a study of the Nicomachean Ethics, Aristotle's most widely read philosophical treatise on the best life for human beings. In it he offers enduringly relevant answers to question such as: What is happiness? How can studying ethics promote happiness? What is the relationship between being happy and being morally good? What features are characteristic of the morally good person? What role does friendship play in the happy life? What about goods like honor, health, pleasure, and money? To what extent do we have control over our actions, character, and happiness? What level of intellectual activity is required for happiness? To what extent can one engage in such activity without being morally good? (A) (IV) Instructor(s): B. Reece Terms Offered: Winter

Prerequisite(s): Undergraduates who are not Philosophy majors or Fundamentals majors should seek instructor permission to enroll.

Equivalent Course(s): PHIL 21720, FNDL 21908

### PHIL 31722. Thomas Aquinas's Commentary on Aristotle's Nicomachean Ethics. 100 Units.

We will read through and discuss the commentary, looking at it both as an interpretation of the Ethics and as a philosophical work in its own right. (A) (IV)

Instructor(s): S. Brock Terms Offered: Spring

Prerequisite(s): For the undergraduates, those who are not Philosophy or Fundamentals majors should seek permission to enroll.

Equivalent Course(s): PHIL 21722, FNDL 21722

#### PHIL 31723. The Will: Aristotle, Augustine, Aquinas. 100 Units.

Aristotle's approach to ethics is sometimes termed intellectualist, meaning that it has no room for a notion of the will, understood as a principle of human action distinct from intellect or reason. Such a notion, it is said, gained currency only centuries later, at least partly through influences alien to Greek philosophy. St Augustine is often cited as one of the thinkers most responsible for the notion's becoming prevalent. St Thomas Aquinas, however, presents a highly articulated theory of human action that appears to integrate a robust conception of the will, and one heavily indebted to Augustine, into a largely Aristotelian framework. We will read and discuss substantial passages from these three authors bearing on the question of the will, in the hope that seeing them side by side can help to get at what they really mean and what the philosophical merits of their views are. (A) (IV)

Instructor(s): S. Brock Terms Offered: Autumn

Prerequisite(s): Undergraduates should either be Philosophy majors or obtain the consent of the Professor. Equivalent Course(s): PHIL 21723

#### PHIL 32401. Modern Logic and the Structure of Knowledge. 100 Units.

In this course, we will examine the various ways in which the concepts and techniques of modern mathematical logic can be utilized to investigate the structure of knowledge. Many of the most well-known results of mathematical logic, such as the incompleteness theorems of Gödel and the Löwenheim-Skolem theorem, illustrate the fundamental limitations of formal systems of logic to fully capture the structure of the semantic models in which truth and validity are assessed. Some philosophers have argued that these results have profound epistemological implications, for instance, that they can be used to ground skeptical claims to the effect that there must be truths that logic and mathematics are powerless to prove. One of the aims of this course is to assess the legitimacy of these epistemological claims. In addition, we will explore the extent to which the central results of mathematical logic can be extended so as to apply to systems of inductive logic, and examine what forms of inductive skepticism may emerge as a result. We will, for example, discuss the epistemological implications of Putnam's diagonalization argument, which shows that, for any Bayesian theory of confirmation based on a definable prior, there must exist hypotheses which, if true, can never be confirmed. (B) (II)

Instructor(s): K. Davey; A. Vasudevan Terms Offered: Winter

Equivalent Course(s): PHIL 22401

# PHIL 32709. Introduction to Philosophy of Quantum Mechanics. 100 Units.

In this class we examine some of the conceptual problems associated with quantum mechanics. We will critically discuss some common interpretations of quantum mechanics, such as the Copenhagen interpretation, the many-worlds interpretation and Bohmian mechanics. We will also examine some implications of results in the foundations of quantum theory concerning non-locality, contextuality and realism. (B) (II)

Instructor(s): T. Pashby Terms Offered: Spring

Prerequisite(s): Prior knowledge of quantum mechanics is not required since we begin with an introduction to the formalism. Only familiarity with high school geometry is presupposed but expect to be introduced to other mathematical tools as needed.

Equivalent Course(s): PHIL 22709, CHSS 32709, HIPS 22709, KNOW 22709

#### PHIL 32961. Social Epistemology. 100 Units.

Traditionally, epistemologists have concerned themselves with the individual: What should I believe? What am I in a position to know? How should my beliefs guide my decision-making? But we can also ask each of these questions about groups. What should we -- the jury, the committee, the scientific community--believe? What can we know? How should our beliefs guide our decision-making? These are some of the questions of social epistemology Social epistemology also deals with the social dimensions of individual opinion: How should I respond to disagreement with my peers? When should I defer to majority opinion? Are there distinctively epistemic forms of oppression and injustice? If so, what are they like and how might we try to combat them? This class is a broad introduction to social epistemology. (B) Instructor(s): G. Schultheis Terms Offered: Winter

Equivalent Course(s): PHIL 22961

# PHIL 34109. John McDowell's Mind and World. 100 Units.

This course will be an overview and introduction of some of the main themes of the Philosophy of John McDowell, orientated around his book Mind and Word. We will also read some of his writings on philosophy of perception and disjunctivism dating from before the book, as well as some of his later responses to critics of the book. The course will conclude with a brief glance at the subsequent development of his views, especially in philosophy of perception since Mind and Word. (B) (III)

Instructor(s): J. Conant Terms Offered: Spring

Prerequisite(s): One previous course in philosophy.

Equivalent Course(s): PHIL 24109

# PHIL 34266. Habit, Skill and Virtue. 100 Units.

Aristotle distinguishes two kinds of intellectual excellence or knowledge in the domain of the practical: techne and phronesis. The one is in the order of an ability, the other in the order of a tendency. The artisan knows how to build a house, but whether she decides to do so is not explained by that knowledge. The phronimos, by contrast, knows to act well such that it is not a further question whether she chooses to do so. In contemporary epistemology and action theory, these two kinds of expertise are often discussed under the heading of 'intelligent skill' and 'intelligent virtue' as irreducibly practical forms of cognition that can't be assimilated to knowing that something is the case. Following Gilbert Ryle's seminal discussion in The Concept of Mind, both, skill and virtue, are standardly opposed to 'brute' or 'mere habit.' The general concept of habit has received surprisingly little attention. In the seminar we will start with the discussion of habit in the Aristotelian tradition, before we turn to the contemporary debates on the two kinds of practical knowledge. Among the questions we will discuss are the following: What is the role of habit in human life? Can knowing how be reduced to knowing that? And if not, what kind of conceptual understanding does it involve? Can virtue be explained through the analogy with skill? Or does the intelligibility of latter ultimately depend on the former, as Aristotle suggest? (I)

Instructor(s): M. Haase Terms Offered: Winter

Equivalent Course(s): PHIL 24266

# PHIL 34267. Iris Murdoch. 100 Units.

In this course we'll read through philosophical work by Iris Murdoch spanning her whole career, along with several of her novels. Topics covered will include: Murdoch's criticism of the moral and practical philosophy of her time; her encounter with the work of Sartre and the existentialists; her engagement with the dialogues of Plato; her later work in moral psychology; and her discussions of aesthetics and the relation between art and philosophy. Primary philosophical readings will be taken from the collection 'Existentialists and Mystics', and her last work 'Metaphysics as a Guide to Morals'. Instructor(s): Amos Browne Terms Offered: Winter

Note(s): This class is primarily intended for students in the MAPH program; undergraduates in their 3rd and 4th year will be admitted with instructor consent, based on the number of available places in the class. Equivalent Course(s): PHIL 24267, MAPH 34266

# PHIL 34799. Same-Sex Sexuality: History, Philosophy, and Law. 100 Units.

This new course examines two important historical periods in Western thought during which same-sex conduct and attraction were extensively debated, both politically and philosophically: ancient Greece and Rome, and Victorian and post-Victorian Britain. We will examine the evidence for ancient Greek and Roman attitudes and practices and the normative arguments of the philosophers, especially Plato and the Greek Stoics. Then we leap forward to Victorian Britain, where a newly honest reading of the Greek evidence provided gay men with a rallying point against Christian laws (female same-sex acts were never illegal in Britain), and philosopher Jeremy Bentham provided eloquent arguments for the decriminalization of same-sex acts (fully published only in 2013). We then pause to study a literature that questions whether sexual orientation is a timeless category or a cultural artifact, and a related debate about alleged biological accounts of same-sex acts in Britain (with the case of Alan Turing as a central example of what troubled the reformers), along with the related legal-philosophical debate between H. L. A. Hart and Lord Devlin debate (and its roots in the earlier debate about liberty between J. S. Mill and Fitzjames Stephen).

Instructor(s): M. Nussbaum Terms Offered: Spring

Prerequisite(s): Undergraduates may enroll only with the permission of the instructor. Graduate students (PhD and MA) do not need permission. Assessment is by an eight-hour take home final exam, although PhD students and law students may select a paper option.

Equivalent Course(s): RETH 34799, CLAS 34719, PLSC 34799, PHIL 24799, CLCV 24719, GNSE 24799, GNSE 34799, PLSC 24799

#### PHIL 35209. Emotions, Reason, and Law. 100 Units.

Emotions figure in many areas of the law, and many legal doctrines (from reasonable provocation in homicide to mercy in criminal sentencing) invite us to think about emotions and their relationship to reason. In addition, some prominent theories of the limits of law make reference to emotions. (Thus Lord Devlin and, more recently, Leon Kass have argued that the disgust of the average member of society is a sufficient reason for rendering a practice illegal, even though it does no harm to others. J. S. Mill and Herbert Hart argue against this view, but preserve a role for some emotions in the law.) Emotions, however, are all too rarely studied closely, with the result that both theory and doctrine are often confused. The first part of this course will study major theories of emotion, asking about the relationship between emotion and cognition, focusing on philosophical accounts, but also learning from anthropology, psychology, and psychoanalytic thought. We will ask how far emotions embody cognitions, and of what type, and then we will ask whether there is reason to consider some or all emotions 'irrational' in a normative sense. We then turn to the criminal law and select areas of constitutional law, asking how specific emotions figure in doctrine and theory: anger, fear, compassion, disgust, guilt, and shame. (A) (I) Instructor(s): M. Nussbaum Terms Offered: Spring

Prerequisite(s): Undergraduates may enroll only with the permission of the instructor. All other students may enroll without permission.

Note(s): Requirements: regular class attendance; an 8 hour take-home final exam OR, if special permission is given, a 20-25 page paper.

Equivalent Course(s): GNSE 38300, PHIL 25209, RETH 32900, GNSE 28210, PLSC 49301

#### PHIL 35707. The Different Senses of Being. 100 Units.

Aristotle states that 'being is said in many ways,' we shall seek to understand this statement and to study the history of its interpretations. Among the modern authors we shall discuss are Franz Brentano, Martin Heidegger, Ernst Tugendhat, Charles Kahn, Aryeh Kosman, G.E.L. Owen, Stephen Menn, David Charles.

Instructor(s): Irad Kimhi Terms Offered: Winter. This course will be taught winter quarter 2020

Prerequisite(s): Undergrads by permission of instructor only.

Note(s): Graduate seminar open to advanced undergrads.

Equivalent Course(s): SCTH 35706

#### PHIL 37322. Jerusalem and Athens - On the Conflict between Revelation and Philosophy. 100 Units.

I shall discuss the subject on the basis of 4 lectures Leo Strauss gave on 'Jerusalem and Athens' and 'Reason and Revelation' in the period 1946-1967.

Instructor(s): Heinrich Meier Terms Offered: Spring. course will be taught spring 2020 Note(s): Open to undergrads by consent only. This course will be taught the first five weeks of the quarter. Equivalent Course(s): SCTH 37322, PLSC 37322, FNDL 27322

#### PHIL 37500. Kant: Critique of Pure Reason. 100 Units.

This will be a careful reading of what is widely regarded as the greatest work of modern philosophy, Immanuel Kant's Critique of Pure Reason. Our principal aims will be to understand the problems Kant seeks to address and the significance of his famous doctrine of 'transcendental idealism'. Topics will include: the role of mind in the constitution of experience; the nature of space and time; the relation between self-knowledge and knowledge of objects; how causal claims can be justified by experience; whether free will is possible; the relation between appearance and reality; the possibility of metaphysics. (B) (V)

Instructor(s): M. Boyle Terms Offered: Autumn

Equivalent Course(s): HIPS 25001, FNDL 27800, PHIL 27500, CHSS 37901

# PHIL 38203. Hegel's Philosophy of Right. 100 Units.

We will study Hegel's Elements of Philosophy of Right. The book is an absolute classic of practical philosophy. Its ambition is nothing less than to provide a systematic treatment of the unity of action theory, ethics and political philosophy. Hegel's theory is considered by many as the highpoint and completion of practical philosophy in the post-Kantian German Idealism. And it is essential for the development Marxism and Critical Theory. It is a crucial treatise to study - not only for those interested of the history of ethics and political theory, but for anyone reflecting on the logic and origins of the kind of society we live in. At the same time, the book is hardy an easy read. For one, the genre of text is quite peculiar: it was written for as a condensed 'Leitfaden' for the students listening Hegel's lectures. Moreover, the range of topics discussed under the heading of the Philosophy of Right - as well the order in which they are presented - seems quite from a contemporary perspective. Hegel's guiding thought is that the power of practical reason and freedom can only be understood through its actual and the actual is rational.' Hegel's point is that the domain of the practical is a stratum of being that is not a reality given to the mind, but one that reason apprehends as its own work in virtue of bringing it into being. (V) Instructor(s): M. Haase Terms Offered: Spring

Equivalent Course(s): FNDL 28204, PHIL 28203

# PHIL 39425. Logic for Philosophy. 100 Units.

Key contemporary debates in the philosophical literature often rely on formal tools and techniques that go beyond the material taught in an introductory logic class. A robust understanding of these debates---and, accordingly, the ability to meaningfully engage with a good deal of contemporary philosophy---requires a basic grasp of extensions of standard logic such as modal logic, multi-valued logic, and supervaluations, as well as an appreciation of the key philosophical virtues and vices of these extensions. The goal of this course is to provide students with the required logic literacy. While some basic metalogical results will come into view as the quarter proceeds, the course will primarily focus on the scope (and, perhaps, the limits) of logic as an important tool for philosophical theorizing. (B)

Instructor(s): M. Willer Terms Offered: Winter

Prerequisite(s): Elementary Logic or equivalent. Open for Graduates but no field credit.

Equivalent Course(s): PHIL 29425

# PHIL 39600. Intermediate Logic. 100 Units.

This course provides a first introduction to mathematical logic for students of philosophy. In this course we will prove the soundness and completeness of deductive systems for both propositional and first-order predicate logic. (B) (II) Instructor(s): A. Vasudevan Terms Offered: Winter

Prerequisite(s): Elementary Logic (PHIL 20100) or its equivalent.

Equivalent Course(s): CHSS 33600, PHIL 29400, HIPS 20500

#### PHIL 39908. Free Will. 100 Units.

The 'problem of free will' is to reconcile our perception of ourselves as free agents with ideas about the structure of reality, and our place within it, that appear to belie that perception. The problem is old, of perennial interest, and, it would seem, wholly intransigent. We shall try to get as close as we can to understanding the root of the problem's seeming intransigence. Our readings will be both historical and recent. Authors include Aristotle, Cicero, Aquinas, Hobbes, Hume, Kant, Schopenhauer, Wittgenstein, Anscombe, Strawson, and Frankfurt. Topics include logical necessity, time's arrow, causation, natural law, motivation, compulsion, and moral responsibility. (A) (I)

Instructor(s): J. Bridges Terms Offered: Autumn

Equivalent Course(s): PHIL 29908

#### PHIL 42961. Social Epistemology. 100 Units.

This course will introduce some main themes of Social Epistemology, that is the study of knowledge in relation to social institutions and relationships. The course will focus on four topics: epistemic authority; testimony as a source of knowledge; peer disagreement and epistemic conflict; and epistemic justice and injustice. (III)

Instructor(s): M. Kremer Terms Offered: Winter

Note(s): The course is exploratory: the instructor is relatively new to this field and will be learning the material with the students.

### PHIL 49701. Topical Workshop. 100 Units.

This is a workshop for 3rd year philosophy graduate students, in which students prepare and workshop materials for their Topical Exam.

Instructor(s): A. Vasudevan Terms Offered: Autumn Winter

Prerequisite(s): A two-quarter (Autumn, Winter) workshop for all and only philosophy graduate students in the relevant years.

# PHIL 49702. Revision Workshop. 100 Units.

This is a workshop for 2nd year philosophy graduate students, in which students revise a piece of work to satisfy the PhD program requirements.

Programmers: Instructor(s): A. Vasudevan Terms Offered: Spring Prerequisite(s): All and only philosophy graduate students in the relevant years.

# PHIL 49900. Reading & Research. 100 Units.

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Reading and Research.
Instructor(s): Staff Terms Offered: Autumn Spring Winter
Prerequisite(s): Consent of Instructor.
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**PHIL 50100. First-Year Seminar. 100 Units.** This course meets in Autumn and Winter quarters.

Instructor(s): D. Finkelstein Terms Offered: Autumn Winter Prerequisite(s): Enrollment limited to first-year graduate students.

# PHIL 51200. Workshop: Law and Philosophy. 50 Units.

Substantial Writing Requirement. The theme for 2019-20 is 'Migration and Citizenship.' This is a seminar/workshop many of whose participants are faculty from various related disciplines. It admits approximately ten students. Its aim is to study, each year, a topic that arises in both philosophy and the law and to ask how bringing the two fields together may yield mutual illumination. Most sessions are led by visiting speakers, from either outside institutions or our own faculty, who circulate their papers in advance. The session consists of a brief introduction by the speaker, followed by initial questioning by the two faculty coordinators, followed by general discussion, in which students are given priority. Several sessions involve students only, and are led by the instructors. Students write a 20-25 page seminar paper at the end of the year. The course satisfies the Law School

Instructor(s): D. Guillery; M. Nussbaum Terms Offered: Autumn Spring Winter

Prerequisite(s): Students are admitted by permission of the two instructors. They should submit a c.v. and a statement (reasons for interest in the course, relevant background in law and/or philosophy) to the instructors by e mail by September 20. Ph.D. students in Philosophy and Political Theory and law students do not need permission.

Note(s): Students must enroll for all three quarters to receive credit.

Equivalent Course(s): PLSC 51512, GNSE 50101, RETH 51301, HMRT 51301

# PHIL 51489. The Philosophy of Elizabeth Anscombe. 100 Units.

One of the most important English philosophers of her generation, G. E. M. Anscombe (1919-2001) was a colorful figure who drove her seven children around in a retired London taxi cab, wore a monocle, smoked cigars, and was fond of swearing in her famously mellifluous voice. She brought Ludwig Wittgenstein to public knowledge with her translations of his later works-crucially, Philosophical Investigations (1953). She almost single-handedly invented contemporary action theory with her 1957 monograph, Intention, and changed the course of 20th century Anglophone ethics with her seminal essay, 'Modern Moral Philosophy' in 1958. She made important, controversial contributions to a wide variety of topics in philosophy of mind, metaphysics, and philosophy of language. In this seminar, we will read, talk, write, and think about Anscombe's philosophical work.

Instructor(s): C. Vogler Terms Offered: Spring

#### PHIL 51701. Conceptions of Nature in German Idealism. 100 Units.

Philosophical conceptions of nature as developed by Kant and some of the major subsequent thinkers - Schelling and Hegel in particular - share three characteristics which make them alien to how philosophers nowadays tend to think about nature: (1) According to Kant, Schelling and Hegel there is such a thing as a philosophy of nature properly speaking, i.e. a kind of philosophical engagement with nature that does not as such amount to philosophy of nature science. (2) Philosophical knowledge of nature cannot, however, be gained by directly taking nature as a topic. It can only be achieved subsequent to an investigation into the form of cognition as such. (3) While philosophical investigation can teach us something about nature that can only be known philosophically, philosophy of nature must be callers the analysis, i.e. it must both clarify how empirical science of nature is possible and take precaution not to contradict anything that is known, empirically, about nature. Against this background, we will deal with three main questions: We will first ask for how the transition from a broadly (epistemo-)logical investigation into the form of cognition to the form of cognition to the philosophy of nature as it occurs in the works of Kant and Hegel is to be understood. We will then inquire into their conception of the proper method of a philosophy of nature by looking at how they introduce the very first categories of nature - space, time, matter, and motion.

Instructor(s): Christian Martin Terms Offered: Winter. Course will be taught Winter 2020 Prerequisite(s): Open to upper level undergrads Equivalent Course(s): SCTH 41701, GRMN 41701

#### PHIL 52961. Topics in Epistemology. 100 Units.

This course will cover a variety of topics at the intersection of epistemology and the philosophy of language. Some possible topics: the relationship partial belief and full belief; self-locating belief; what it is to believe (or know) that something might be the case or that something must be the case; probabilities of conditionals and conditional probabilities. (III) Instructor(s): G. Schultheis Terms Offered: Spring Equivalent Course(s): LING 52961

#### PHIL 53003. Explanation. 100 Units.

This course surveys recent work on explanation across philosophical disciplines. Beginning with classic accounts of scientific explanation we will proceed to consider recent work on mechanical explanation, mathematical explanation, causal explanation (particularly in the physical and social sciences), the relation between explanation and understanding, and metaphysical explanation (particularly the idea of explanation as ground). (II)

Instructor(s): T. Pashby Terms Offered: Spring

Equivalent Course(s): CHSS 53003, KNOW 53003

# PHIL 53601. The Problem of Evil and Philosophical Commentaries on the Book of Job in Medieval Philosophy: Saadia. 100 Units.

This seminar will examine medieval philosophers' discussions of evil and suffering, natural, bodily, and mental, in their philosophical treatises and in their commentaries on the Book of Job. We will be concerned both with standard topics such as theodicies or justifications for evil, providence and natural evils, and what exactly 'the' problem of evil is as well as with the question whether and how the genre in which one pursues these questions makes a difference. In particular, did the commentary form, especially on a book like Job with its enigmatic literary form, enable medieval thinkers to articulate philosophical issues they could not in their philosophical treatises using discursive argumentation? (IV) Instructor(s): J. Stern Terms Offered: Winter

Prerequisite(s): Stern Ternis Offered: white Prerequisite(s): Knowledge of Arabic, Hebrew, and Latin is not required, but it can't hurt.

Equivalent Course(s): NEHC 33601, DVPR 53601

Equivalent Course(s). INERC 55001, DVFR 5500

# PHIL 54602. The Analytic Tradition. 100 Units.

This seminar will be a graduate survey course on the history of the first half of the analytic philosophical tradition. The course will aim to provide an overview of developments within this tradition, starting from the publication of Frege's Begriffsschrift in 1879 and reaching up to the publication of Ryle's The Concept of Mind in 1949 and the posthumous publication of Wittgenstein's Philosophical Investigations in 1953. The course will focus on four aspects of this period in the history of analytic philosophy: (1) its initial founding phase, as inaugurated in the early seminal writings of Gottlob Frege, G. E. Moore, Bertrand Russell, as well as Ludwig Wittgenstein's Tractatus; (2) the inheritance and reshaping of some of the central ideas of the founders of analytic philosophy at the hands of the members of the Vienna Circle and their critics, especially as developed in the writings of Otto Neurath, Rudolf Carnap, Moritz Schlick, and W. V. O. Quine, (3) the cross-fertilization of the analytic and Kantian traditions in philosophy and the resulting initiation of a new form of analytic Kantianism, as found in the work of some of the logical positivists, as well as in the writings of some of their main critics, such as C. I. Lewis; (4) the movement of Ordinary Language Philosophy and Oxford Analysis, with a special focus on the writings of Gilbert Ryle and the later Wittgenstein. (V)

Instructor(s): J. Conant Terms Offered: Spring

# PHIL 55421. Plato's Timaeus. 100 Units.

The Timaeus is one of Plato's most influential dialogues, and it is also unusual in several respects. The bulk of the work is taken up with a single speech about the origin of the cosmos and the place of human beings within it. The dialogue contains the only discussion in the entire Platonic corpus of numerous topics, including the structure of elemental bodies and the mechanics of sense perception. It is also an important source for understanding Platonic moral psychology, metaphysics, epistemology, and philosophical methodology. In this course, we will study the dialogue closely, focusing on particular topics and sections of the dialogue each week. We will also aim of understand the structure and central argument of the dialogue as a whole. (IV)

Instructor(s): E. Fletcher Terms Offered: Spring

# PHIL 55110. Reading Religion from a Philosophical Point of View. 100 Units.

We will examine the question of what it means to read religious texts and practices from a philosophical point of view. Instructor(s): A. Davidson Terms Offered: Autumn

Prerequisite(s): Enrollment requires the consent of the instructor and the course is only open to advanced graduate students who are writing a thesis or preparing comprehensive exams. For more information contact the instructor. Equivalent Course(s): DVPR 55110

#### PHIL 55510. Knowing How. 100 Units.

In 'Knowing How and Knowing That' (1945) and The Concept of Mind (1951), Gilbert Ryle famously argued for a sharp distinction between practical and propositional knowledge. This distinction was settled philosophical orthodoxy for several decades, but has more recently come under attack, beginning with Jason Stanley and Timothy Williamson's 'Knowing How' (2001). Responses to their arguments have spawned a rich literature, from replies by such authors such as Alva Noe, and Ian Rumfitt, to Stanley's full presentation of their view in his book Know How (2011), to further discussions by authors such as Kieran Setiya, Jennifer Hornsby, Carlotta Pavese, Ellen Fridland, Julia Annas, and many others. This course will delve into this literature, beginning with a careful reading of Ryle, and then turning to a discussion of Stanley and Williamson, their allies, their critics, and recent developments. This is a state of the art seminar on a topic of great current scholarly interest. (III)

Instructor(s): M. Kremer Terms Offered: Spring

#### PHIL 57200. Spinoza's Ethics. 100 Units.

An in-depth study of Benedict Spinoza's major work, the Ethics, supplemented by an investigation of some of his early writings and letters. Focus on Spinoza's geometric method, the meaning of and arguments for his substance monism, his doctrine of parallelism, and his account of the good life. (V) Instructor(s): D. Moerner Terms Offered: Spring

Prerequisite(s): 200: History of PHIL II, or equivalent.

#### PHIL 58010. Philosophy of Language. 100 Units.

A seminar on contemporary issues in philosophy of language and linguistics. The exact topic will be determined closer to the date and in light of students' interests. The list of topics discussed in the past include indexicality, subjectivity, game theory, and conditionals. (II)

Instructor(s): M. Willer Terms Offered: Spring Equivalent Course(s): LING 58010

# PHIL 59950. Workshop: Job Placement. 000 Units.

Course begins in late Spring quarter and continues in the Autumn quarter.

Instructor(s): M. Willer Terms Offered: Autumn Spring

Prerequisite(s): This workshop is open only to PhD Philosophy graduate students planning to go on the job market in the Autumn of 2020/2021. Approval of dissertation committee is required.

#### PHIL 70000. Advanced Study: Philosophy. 300.00 Units.

Advanced Study: Philosophy



# Department of Romance Languages and Literatures

Department Website: http://rll.uchicago.edu Faculty and Staff

Professors

- Arnold Davidson
- Frederick A. de Armas
- Daisy Delogu
- Philippe Desan
- Robert Kendrick
- Armando Maggi
- Robert J. Morrissey
- David Nirenberg
- Larry F. Norman
- Thomas Pavel
- François Richard
- H. Justin Steinberg
- Mauricio Tenorio

Associate Professors

- Dain Borges
- Alison James
- Agnes Lugo-Ortiz
- Miguel Martínez
- Rocco Rubini
- Mario Santana
- Jennifer Scappettone
- Jennifer Wild

Assistant Professors

- Larissa Brewer-García
- Maria Anna Mariani
- Danielle Roper
- Victoria Saramago

Postdoctoral Fellow

Khalid Lyamlahy

Senior Lecturers

- Nadine Di Vito
- Alba Girons Masot
- Ana Lima
- María C. Lozada
- Alice McLean
- Janet Sedlar
- Veronica Vegna

Instructional Professors

- Marie Berg
- Céline Bordeaux
- Irena Cajkova
- Lidwina van den Hout

Assistant Instructional Professors

- Begoña Arechabaleta
- Elga Cremades Cortiella
- Sylvie Goutas
- Céline Legrand
- Verónica Moraga
- Paula Motrico
- Diana Palenzuela
- Rebecca Petrush
- Felipe Pieras-Guasp
- Elizabeth Porretto

Emeritus Faculty

- Paolo Cherchi
- René de Costa
- Peter F. Dembowski
- George Haley
- Elissa Weaver
- Rebecca West

### Staff

- Maria Chavez, Department Assistant
- Jennifer Hurtarte, Undergraduate Affairs Administrator

# Program Overview

We offer PhD programs in three areas of study: French and Francophone Studies (http://rll.uchicago.edu/content/ french-and-francophone-studies/), Hispanic and Luso-Brazilian Studies (http://rll.uchicago.edu/content/hispanic-andluso-brazilian-studies/), and Italian Studies (http://rll.uchicago.edu/content/italian-studies/). Our students are supported by faculty members within and outside the department and we encourage students to take advantage of the University's many interdisciplinary programs.

The Joint PhD Program in Theater & Performance Studies (TAPS) allows students to complement their doctoral studies in Romance Languages and Literatures with a program of study in TAPS that reflects their particular training and interests, encompassing both academic and artistic work. Please visit the TAPS graduate program website (https://arts.uchicago.edu/ theater-and-performance-studies/graduate-program/pld-program/) for additional information on the joint program.

#### Size of the Program

There are approximately 5 to 8 students in each year's PhD cohort.

#### Time to Completion

Each program has slightly different requirements but all PhD students in Romance Languages and Literatures should be ABD (All But Dissertation) by the end of their third year. A general program of study summary is below:

- Year 1: Coursework; preparation for language requirements; first-year exam
- Year 2: Completion of coursework; fulfill language requirements; complete qualifying paper; preparation for comprehensive exams
- Year 3: Complete qualifying paper; comprehensive exams; fulfill language requirements; complete dissertation proposal and colloquium
- Year 4: Dissertation research and writing; applications for dissertation completion fellowships
- Year 5: Dissertation research and writing; applications for dissertation completion fellowships; job applications
- Year 6: Dissertation completion; job applications.

#### Funding

For information about the Humanities Division's financial aid for prospective graduate students, click here (https:// humanities.uchicago.edu/students/admissions/financial-aid-prospective-students/). Current graduate students can find more information by clicking here (https://humanities.uchicago.edu/students/financial-aid/).

#### Teaching

As an integral part of the doctoral program, students will be exposed to a variety of teaching methodologies through coursework, mentoring and workshops, and will gain teaching experience by serving in different roles in our undergraduate program.

# Masters Degree Program

The University of Chicago offers Masters-level study in Catalan, French, Italian, Portuguese, and Spanish language and culture through the Master of Arts Program in Humanities (https://maph.uchicago.edu). In this one-year program, students build their own curriculum with graduate-level courses in any humanities department (including Romance Languages and Literatures) and complete a thesis with a faculty advisor.

Students may also pursue more thorough language training in the MAPH Two-Year Language Option (http:// rll.uchicago.edu/content/master-arts-program-humanities/) (MAPH TLO). MAPH TLO students begin taking language classes in their first year of the program, weaving language-focused coursework into the traditional MAPH year. Language Option students continue to focus on their language skills in the second year of the program, registering for a minimum of nine total language classes during the two years they are at the University.

# Application

The application process for admission and financial aid for all graduate programs in the Division of the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at http://humanities.uchicago.edu/students/ admissions (http://humanities.uchicago.edu/students/).

Questions about admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu/page/english-language-requirements (https://internationalaffairs.uchicago.edu/page/english-language-requirements (https://internationalaffairs.uchicago.edu/page/e

# More Information

- Application Requirements (http://rll.uchicago.edu/content/admission-requirements/)
- Campus Visit (https://grad.uchicago.edu/admissions/visit-connect/)
- Request More Information (http://rll.uchicago.edu/content/request-more-information/)

#### Graduate Courses

# Catalan

# CATA 31700. La novela historica del presente. 100 Units.

Narratives of recovery and transmission of the historical past play a prominent role in contemporary fiction. In the case of the literatures of Spain - in Basque, Catalan, Galician, and Spanish - the attention given by novelists to the memory of the Civil War, the dictatorship, and the Transition to democracy is such that it could be argued that a new form of historical novel, a sort of 'historical novel of the present' (which founds its counterpart in the 'history of the present' that has emerged as a booming field among historians), has become one of the dominant modes of postmodern fictional writing. In this course we will explore this recent development in historical fiction through the analysis of a number of works published in the last thirty years.

Instructor(s): M. Santana Terms Offered: Spring Note(s): Taught in Spanish. Equivalent Course(s): BASQ 31700, SPAN 31700

#### CATA 32350. Speaking Truth to Power in Medieval Iberia. 100 Units.

In the multilingual and multireligious environment of the Iberian middle ages, poetry can express many things. And while literary history has granted a prestigious space to some of these things, such as love or spirituality, it has consistently neglected others, such as socio-political satire or vulgarity. This class will be paying attention to that other less talked-about poetry that gets into the political struggles of the period, that talks in profanities about profane things. In other words, the poetry that does not speak to the eternity of existence, but that gets its hands dirty with earthly matters. The poetry that savagely mocks and cuts through social conventions in a way that makes seem contemporary Twitter trolls benevolent in comparison. For this class we will be reading authors who wrote in Galician-Portuguese such as Joao Soares de Paiva or King Alfonso X, authors who wrote in Catalan such as Guillem de Bergueda or Ramon Vidal de Besalu, and authors who wrote in Spanish such as Juan Ruiz or Juan de Mena. Translations to Spanish will be provided or worked though class discussion.

Instructor(s): N. Blanco Mourelle Terms Offered: Autumn

Equivalent Course(s): SPAN 32350, MDVL 22350, SPAN 22350, CATA 22350, PORT 32350, PORT 22350

# CATA 33333. Reading Catalan for Research Purposes. 100 Units.

This fast-paced course prepares students to read and do research using texts in Catalan. Students will work on grammar, vocabulary and reading skills, and they will also get introduced to some translation strategies. Part of the texts students will work on will be academic texts in their respective areas of research. This course may fulfill the graduate language requirement in some departments.

Terms Offered: Autumn

Prerequisite(s): Familiarity with a Romance language is highly recommended. Equivalent Course(s): CATA 23333

# CATA 35520. Narrativas trans en la cultura catalana del siglo XX. 100 Units.

Este curso ofrece una síntesis crítica de algunas de las representaciones más destacadas de las vidas las personas trans (transformistas, travestidas y transexuales) en la Barcelona del período que transcurre entre 1914 y 1980 a partir de los testimonios literarios disponibles -redactados fundamentalmente en catalán y en español- que reflejaron las voces, los ecos y las distorsiones de la diversidad sexual en las culturas ibéricas del siglo XX. Estas fuentes primarias se interrelacionarán con documentos periodísticos y ensayísticos, con fotografías y cómics, con películas de ficción y documentales que permitirán profundizar en cuestiones sociales e históricas que incidieron en la plural percepción (auto)biográfica y en los debates sobre la noción de género sexual a lo largo del siglo XX. La ciudad de Barcelona será considerada, por consiguiente, epicentro geográfico real y metáfora de libertades políticas, colectivas e individuales.

Instructor(s): R. Mérida

Note(s): Taught in Spanish.

Equivalent Course(s): SPAN 25520, SPAN 35520, CATA 25520

#### CATA 37020. Christianity and Islam in the Western Mediterranean World during the Late Middle Ages. 100 Units.

El curso analizará los contactos mantenidos entre mundo cristiano y mundo islámico en el Mediterráneo bajomedieval, tomando la Corona de Aragón y sus ricas fuentes documentales como observatorio privilegiado. Las particularidades de la Corona de Aragón se compararán con las de otros estados cristianos del Occidente mediterráneo que mantuvieron relaciones sostenidas con los musulmanes. Tras la definición de la naturaleza y de las especificidades de los contactos político-diplomáticos, mercantiles y pirático-corsarios entre Cristiandad e Islam, las clases se focalizarán en la identificación y caracterización de colectivos y personas que actuaron como mediadores lingüísticos y culturales entre ambas realidades. Se determinarán las circunstancias y motivos que permitieron que agentes diplomáticos, mercaderes, mercenarios, piratascorsarios o cautivos-esclavos vehicularan los contactos. Y se analizarán y compararán las distintas tipologías documentales que son plasmación de todos esos intercambios y contactos culturales y humanos.

Instructor(s): R. Salicrú i Lluch Terms Offered: Spring

Note(s): Taught in Spanish.

Equivalent Course(s): SPAN 37020, CATA 27020, MDVL 27020, RLST 27020, SPAN 27020

### CATA 42100. Reading & Research. 100 Units.

Independent study with an individual faculty member.

Terms Offered: Autumn Spring Winter

#### French

All literature courses taught in French unless otherwise indicated.

### FREN 33333. Reading French for Research Purposes. 100 Units.

This intensive course is designed to take students with a basic knowledge of French to the level of reading proficiency needed for research. To that end, students will work on grammar, vocabulary, and reading strategies. Students will read a range of scholarly texts, a number of which will be directly drawn from their respective areas of research. Terms Offered: Autumn Spring Winter

Prerequisite(s): FREN 10200 or placement in FREN 10300 for undergraduates. No prerequisite for graduate students, though some prior experience with French is highly recommended.

Equivalent Course(s): FREN 23333

#### FREN 33335. Racial France. 100 Units.

Over the last two decades, questions of race, racial identity, and racial discrimination have come increasingly to the fore in France, despite (or because of) the country's prevailing rhetoric of colorblind indivisibility. These issues are becoming ever more pressing on a background of intensifying racisms and right-wing populisms in Europe. The purpose of this course is to offer analytical perspectives about these critical tensions and their ripples across the landscape of contemporary French politics. Using readings from a wide variety of fields (among others, anthropology, sociology, literature, philosophy, history, political science, and news media), we will unpack the discourses and lived experiences of race that have shaped the politics of national identity and difference in France since the late 18th century. We will see that the question of 'racial France' has been intimately bound up with the country's history of colonialism and decolonization, with its Republican ideology, with matters of law and government, with questions of citizenship, religion and sexuality, with recent debates on multiculturalism, and with white malaise and resentment stirred by the growth of right-wing extremisms. In the course of our examinations, we will also reflect on the specificity of race and racialization in France, and its differences from racecraft in the United States.

Instructor(s): Francois Richard

Note(s): This version of the course is for the Paris Program, Spring 2021. This course qualifies as a Discovering Anthropology selection for Anthropology Majors.

# FREN 33711. Litterature et photographie. 100 Units.

Ce cours se propose d'interroger les interactions entre littérature et photographie aux XIXe et XXe siècles à travers un parcours à la fois chronologique et thématique, en suivant trois pistes principales: l'influence du regard photographique sur l'écriture romanesque et poétique (Zola, Cendrars, Duras); les réflexions d'écrivains sur la photographie (Baudelaire, Barthes, Guibert); et les relations entre texte et image au sein du livre ou dans les œuvres de plasticiens (Rodenbach, Breton, Ernaux, Calle).Nous étudierons notamment: le rapport entre le visible et le lisible; la théorisation de l'image photographique; les fonctions narratives, illustratives et documentaires de l'image photographique dans la fiction et dans l'autobiographie; et l'histoire de la 'photolittérature' comme genre spécifique. Des lectures théoriques et critiques accompagneront l'analyse des textes.

Instructor(s): A. James Terms Offered: Winter

Prerequisite(s): FREN 20500 or 20503, and one other literature course taught in French.

Note(s): Taught in French. Equivalent Course(s): FREN 23711

# FREN 34888. Jeux littéraires, XXe/XXIe siècles. 100 Units.

Ce cours abordera l'histoire littérature à travers un prisme particulier: la fréquence des pratiques de jeu dans la production littéraire des XXe et XXIe siècles-des 'cadavres exquis' du surréalisme à l'interactivité des littératures numériques, en passant par les contraintes formelles de l'Ouvroir de littérature potentielle (Oulipo). Nous analyserons le rôle de ces pratiques dans l'esthétique et la sociabilité des avant-gardes, tout en tenant compte des théories du jeu les plus pertinentes (Huizinga, Caillois). En plus des travaux d'analyse littéraire, les étudiants participeront à des exercices de création individuels ou collectifs.

Instructor(s): A. James Terms Offered: Winter

Prerequisite(s): FREN 20500 or 20503, and one other literature course taught in French.

Note(s): Taught in French.

Equivalent Course(s): FREN 24888

# FREN 35250. Les victimes des Lumières. 100 Units.

Dans ce cours, nous explorerons un aspect méconnu des Lumières. Généralement on voit dans les œuvres des philosophes une affirmation de l'autonomie de l'homme, de sa capacité non seulement de comprendre le monde, mais de le transformer. Ce cours va nous plonger dans la mise en place d'un « discours victimaire » qui se développe pour ainsi dire à l'ombre des Lumières. Souvent ceux-là mêmes qui rêvent de Lumières sans limites, en explorent aussi les confins, comme le font aussi certains qui habitent ces zones liminaires. Pour mieux comprendre à quel point les « ténèbres des Lumières » nous touchent encore, commencerons par lire des passages tirés du livre de Robert Antelme, L'espèce humaine, issu du monde concentrationnaire de la Seconde Guerre Mondiale. Parmi les lectures : Les Lettres persanes de Montesquieu, La Religieuse de Diderot, Les Rêveries de Rousseau, De la littérature, Corinne Mme de Staël, et parmi d'autres écrits possibles, de l'abbé Raynal, du Marquis de Sade et de Napoléon Bonaparte, pamphlets révolutionnaires... Avertissement : certaines de ces œuvres contiennent des éléments qui peuvent heurter nos sensibilités.

Instructor(s): R. Morrissey Terms Offered: Winter

Prerequisite(s): Advanced undergrads permitted with consent of instructor.

Note(s): Course taught in French, but with tolerance for those who might wish/need to speak in English. Written work in French or English, depending on students' concentration.

Equivalent Course(s): FREN 25250

# FREN 35910. Racine. 100 Units.

Racine's tragedies are often considered the culminating achievement of French classicism. Most famous for his powerful reimaginings of Greek myth (Phèdre, Andromaque), his tragic universe nevertheless ranged considerably wider, from ancient Jewish queens to a contemporary Ottoman harem. We will consider the roots (from Euripides to Corneille) of his theatrical practice as well as its immense influence on future writers (from Voltaire to Proust, Beckett, and Genet). Instructor(s): L. Norman Terms Offered: Autumn

Prerequisite(s): At least one French literature course, 21700 or higher.

Note(s): Course taught in French; all work in French for students seeking FREN credit; written work may be in English for those taking course for TAPS or FNDL credit.

Equivalent Course(s): TAPS 35910, FNDL 25910, FREN 25910, TAPS 28476

#### FREN 38410. Ecrire le « Printemps arabe » au Maghreb : témoignages et perspectives littéraires. 100 Units.

Fin 2010, l'immolation de Mohamed Bouazizi, un vendeur ambulant tunisien, déclenche un soulèvement populaire qui s'étend rapidement au reste du monde arabe, entraînant notamment la chute des régimes en Tunisie et en Egypte et une série de reconfigurations d'ordre politique et socio-économique. Si les pays du Maghreb ont vécu ces soulèvements et leurs conséquences de manières différentes, les écrivains maghrébins ont été particulièrement sensibles à l'élan et à la promesse de changement portés par la rue. Ceci étant, et à l'image de l'appellation « Printemps arabe », à la fois utilisée et récusée, les dynamiques et les résultats des protestations ont fait l'objet de nombreux débats. En s'appuyant sur ce contexte historique, ce cours s'intéresse aux différentes modalités d'écriture des soulèvements au Maghreb à travers divers genres littéraires, du témoignage à la fiction, en passant par l'essai, le théâtre ou encore la poésie. En étudiant un corpus de textes francophones issus de la Tunisie (Meddeb, Filali, Bekri), de l'Algérie (Benfodil, Boudjedra, Tamzali, Sebbar) et du Maroc (Ben Jelloun, Elalamy, Terrab), nous nous intéresserons à la représentation de la révolte populaire dans ses dimensions socio-politique et culturelle mais aussi à des questions clés telles que les formes d'engagement des écrivains, leurs approches et choix esthétiques et le rapport entre la dynamique des soulèvements et la construction narrative ou poétique des textes. Instructor(s): K. Lyamlahy Terrns Offered: Autumn

Prerequisite(s): FREN 20500 or 20503

Note(s): Readings and discussions in French.

Equivalent Course(s): FREN 28410

#### FREN 39100. Pascal and Simone Weil. 100 Units.

Blaise Pascal in the seventeenth century and Simone Weil in the twentieth formulated a compelling vision of the human condition, torn between greatness and misery. They showed how human imperfection coexists with the noblest callings, how attention struggles with distraction and how individuals can be rescued from their usual reliance on public opinion and customary beliefs. Both thinkers point to the religious dimension of human experience and suggest unorthodox ways of approaching it. We will also study an important text by Gabriel Marcel emphasizing human coexistence and cooperation. Instructor(s): T. Pavel Terms Offered: Spring

Prerequisite(s): Undergraduates must be in their third or fourth year.

Note(s): Taught in English. For French undergraduates and graduates, there will be a bi-weekly one-hour meeting to study the original French texts.

Equivalent Course(s): SCTH 38201, FNDL 21812, CMLT 39101, FREN 29100, CMLT 29101, RLST 24910

# FREN 39322. Europe's Intellectual Transformations, Renaissance through Enlightenment. 100 Units.

This course will consider the foundational transformations of Western thought from the end of the Middle Ages to the threshold of modernity. It will provide an overview of the three self-conscious and interlinked intellectual revolutions which reshaped early modern Europe: the Renaissance revival of antiquity, the 'new philosophy' of the seventeenth century, and the light and dark faces of the Enlightenment. It will treat scholasticism, humanism, the scientific revolution, Bacon, Descartes, Hobbes, Locke, Voltaire, Diderot, and Sade.

Instructor(s): A. Palmer Terms Offered: Autumn

Prerequisite(s): Students taking FREN 29322/39322 must read French texts in French.

Note(s): First-year students and non-History majors welcome.

Equivalent Course(s): FREN 29322, RLST 22605, SIGN 26036, HCHR 39522, KNOW 39522, KNOW 29522, HIST 39522, HIST 29522

#### FREN 42100. Readings And Research: French. 100 Units.

Independent study with an individual faculty member. Terms Offered: Autumn Spring Winter

#### FREN 42310. World Literatures in Dialogue: Latin American and Francophone Perspectives. 100 Units.

This course aims to explore the major debates that have surrounded the concept of 'World literature' in both Latin American and Francophone contexts. Building upon a wide range of critical works (Said, Casanova, Damrosch, Apter, Moretti), it highlights the significance of the concept of 'World literature' in two different yet equally instructive and often intersecting contexts. In the French-speaking world, this course will draw on the Manifesto 'Toward a World literature in French' (2007) signed by eminent writers from areas as diverse as Sub-Saharan Africa (Mabanckou, Waberi), North Africa (Ben Jelloun, Sansal), Indian Ocean islands (Ananda Devi, Raharimanana), and the Caribbean (Condé, Laferrière). Some of the key questions that will be studied include the critique of 'Francophonie', the question of multilingualism and its manifestations, and the relationship between world literature and cosmopolitanism. In a similar vein, the course will explore the expanding corpus of Latin American scholarship on the topic (Kristal, Siskind, Hoyos) in relation to the contributions of Latin American authors (Bolaño, García Márquez, Indiana, Lisboa, Oloixarac). This portion aims to revisit some of the topics and issues present in contemporary scholarship on world literature as they relate to earlier Latin American theory and criticism, and to discuss major contemporary works that directly intervene on world literature debates today. Instructor(s): K. Lyamlahy and V. Saramago Terms Offered: Autumn

Note(s): Taught in English

Equivalent Course(s): CMLT 42310, LACS 42310, SPAN 42310, MAPH 42310, PORT 42310

#### FREN 42777. Montaigne et La Boétie: une amitié littéraire? 100 Units.

Le nom de La Boétie est à jamais lié à celui de Montaigne. La célèbre définition de l'amitié donnée par Montaigne, « parce que c'estoit luy, parce que c'estoit moy », rendit les deux hommes inséparables aux yeux de la postérité. C'est cette amitié sopi-disant parfaite proposée par Montaigne que nous aborderons dans ce séminaire. Indicible pour Montaigne, cette amitié reflète pourtant des ambitions professionnelles et éditoriales. Les intentions politiques se confondent alors avec l'expression littéraire d'une amitié érigée en modèle. La Boétie joua en effet un rôle important dans la formation politique de Montaigne et dans son évolution littéraire. Son Discours de la servitude volontaire est aujourd'hui considéré comme un des textes fondateurs de la philosophie politique moderne. Ce traité politique devait à l'origine constituer le cœur du livre de Montaigne, mais il fut retranché au dernier moment, lors de l'impression des Essais en 1580. En fait, la place des écrits de La Boétie dans l'œuvre de Montaigne a toujours été problématique et l'amitié idéalisée par l'auteur des Essais n'est pas exempte de calculs personnels. Ainsi, l'histoire de l'amitié rapportée par Montaigne appelle un commentaire. Nous aborderons donc cette amitié de papier dans son rapport au politique et au social.

Instructor(s): P. Desan Terms Offered: Spring

Note(s): Taught in French, with all readings in French. Oral presentations may be in English.

# FREN 46402. History and Fiction. 100 Units.

We will explore the relations among historical analysis, historical narrative, and fiction, with an emphasis on the Americas. Instructor(s): D. Borges, M. Tenorio Terms Offered: Autumn

Prerequisite(s): Open to upper-level undergraduates with consent of instructors; students taking course with a Romance subject code must do readings and the final paper in French, Portuguese, or Spanish. Equivalent Course(s): PORT 46402, HIST 46401, LACS 44401, SPAN 46402

#### FREN 49100. The Archive: Materiality, Aesthetics, Visual Culture. 100 Units.

In this research-intensive graduate seminar, students will engage with a range of methods, questions, and approaches to conducting archival research in filmic, paper and print, and internet databases, and in both American and foreign contexts. While some class content will unfold around archival materials related to French film and art practice between 1930-1950, and to the discursive transformations around concepts of materiality and visual aesthetics therein, we will also explore a range of texts on archival methodology; selected texts on archival theory; and case-studies foregrounding modes of archival discovery, evaluation, and interpretation. With the aim of training students for 倜deep divaê∉# explorations of material and visual culture, students will be expected to conduct original research on a topic of their own design beginning in week 2. To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research. Proposals should be sent to jenniferwild@uchicago.edu at least 2 weeks prior to spring quarter 2016.

#### Instructor(s): Jennifer Wild Terms Offered: Winter

Note(s): To be considered for this seminar, interested students should thus submit a short (1-2 paragraph) research proposal prior to registration. Proposals do not have to focus on French or Francophone topics, nor do they have to be fully developed. They must, however, propose a set of coherent and exploratory, if tentative, questions or propositions that the student will explore through intensive archival research.

Equivalent Course(s): ARTH 49700, CMST 69110

#### Italian

All courses taught in Italian unless otherwise indicated.

#### ITAL 31820. Italo Calvino: the Dark Side. 100 Units.

An intense reading of Italo Calvino's later works: We will contemplate the orbital debris of Cosmicomics and t zero, and we will follow the labyrinthine threads of The Castle of Crossed Destinies and Invisible Cities. After stumbling upon the suspended multiple beginnings of If on a winter's night a traveler, we will probe the possibilities of literature with the essays collected in Una pietra sopra. Finally, we will encounter Mr. Palomar, who will provide us with a set of instructions on how to neutralize the self and 'learn how to be dead.' The approach will be both philosophical and historical, focusing on Calvino's ambiguous fascination with science, his critique of the aporias of reason and the 'dementia' of the intellectual, and his engagement with the nuclear threat of total annihilation.

Instructor(s): M. Mariani Terms Offered: Winter

Note(s): Taught in Italian.

Equivalent Course(s): ITAL 21820, FNDL 21820

#### ITAL 31900. Dante's Divine Comedy 1: Inferno. 100 Units.

This is the first part of a sequence focusing on Dante's masterpiece. We examine Dante's Inferno in its cultural (i.e., historical, artistic, philosophical, sociopolitical) context. In particular, we study Dante's poem alongside other crucial Latin and vernacular texts of his age. They include selections from the Bible, Virgil's Aeneid, Augustine's Confessions, Ovid's Metamorphoses, and the stilnovist and Siculo-Tuscan poets. Political turmoil, economic transformation, changing philosophical and theological paradigms, and social and religious conflict all converge in the making of the Inferno. Instructor(s): J. Steinberg Terms Offered: Winter

Note(s): Taught in English.

Equivalent Course(s): MDVL 21900, ITAL 21900, FNDL 27200

#### ITAL 32101. Dante's Divine Comedy III: Paradiso. 100 Units.

An in-depth study of the third cantica of Dante's masterpiece, considered the most difficult but in many ways also the most innovative. Read alongside his scientific treatise the Convivio and his political manifesto the Monarchia. Instructor(s): J. Steinberg Terms Offered: Spring

Prerequisite(s): Completion of the previous courses in the sequence not required, but students should familiarize themselves with the Inferno and the Purgatorio before the first day of class.

Note(s): Taught in English.

Equivalent Course(s): ITAL 22101, FNDL 21804, MDVL 22101

#### ITAL 32304. Patronage and the Production of Culture in Renaissance Italy and Her Neighbors. 100 Units.

The great works of literature, philosophy, art, architecture, music, and science which the word 'Renaissance' invokes were products of a complex system of patronage and hierarchy in which local, personal, and international politics were as essential to innovation as ideas and movements. This course examines how historians of early modern Europe can strive to access, understand, and describe the web of hierarchy and inequality that bound the creative minds of Renaissance Europe to wealthy patrons, poor apprentices, distant princes, friends and rivals, women and servants, and the many other agents, almost invisible in written sources, who were vital to the production and transformation of culture.

Instructor(s): A. Palmer Terms Offered: Spring

Prerequisite(s): Upper-level undergraduates with consent of instructor; students taking course with the ITAL subject code must do readings in Italian.

Equivalent Course(s): KNOW 42304, HIST 42304

#### ITAL 32900. Vico's New Science. 100 Units.

This course offers a close reading of Giambattista Vico's masterpiece, New Science (1744)-a work that sets out to refute 'all opinions hitherto held about the principles of humanity.' Vico, who is acknowledged as the most resolute scourge of any form of rationalism, breathed new life into rhetoric, imagination, poetry, metaphor, history, and philology in order to promote in his readers that originary 'wonder' and 'pathos' which sets human beings on the search for truth. However, Vico argues, the truths that are most available and interesting to us are the ones humanity 'authored' by means of its culture and history-creating activities. For this reason the study of myth and folklore as well as archeology, anttropology, and ethnology must all play a role in the rediscovery of man. The New Science builds an 'alternative philosophy' for a new age and reads like a 'novel of formation' recounting the (hi)story of the entire human race and our divine ancestors. In Vico, a prophetic spirit, one recognizes the fulfillment of the Renaissance, the spokesperson of a particular Enlightenment, the precursor of the Kantian revolution, and the forefather of the philosophy of history (Herder, Hegel, and Marx). The New Science remained a strong source of inspiration in the twentieth century (Cassirer, Gadamer, Berlin, Joyce, Beckett, etc.) and may prove relevant in disclosing our own responsibilities in postmodernity.

Instructor(s): R. Rubini Terms Offered: Autumn

Note(s): Taught in English.

Equivalent Course(s): CMLT 22501, FNDL 21408, CMLT 32501, ITAL 22900

#### ITAL 33020. The Italian Cinematographic Comedy. 100 Units.

An important genre in Italian cinema is represented by the 'commedia,' in particular the declination 'all'italiana.' It is a very original form of representation of the world invented by Italian cinema. The comedy genre has marked many decades of Italian cinematography: from the plot comedies of the Fifties (going back until the Thirties) with films like 'Due soldi di speranza' (1952) by Renato Castellani, to the grotesque comedy of masks of the Sixties, with authors such as Dino Risi ('II sorpasso,' 1962, 'I mostri,' 1963), Mario Monicelli ('La Grande Guerra,' 1959) and Pietro Germi ('Divorzio all'italiana,' 1961, 'Sedotta e abbandonata,' 1964), up to the dominance of the grotesque representation of the world, with authors such as Elio Petri ('Indagine su un cittadino al di sopra di ogni sospetto,' 1972). The heritage of the commedia all'italiana can be found in contemporary Italian cinema, as for example with Nanni Moretti. Moretti's cinema in fact summarizes the entire inheritance of Italian cinematographic modernity - starting from neorealism and up to comedy and author cinema - in one of the most effective ways. The Italian cinematographic comedy is also rooted in the Italian literary tradition, in the masks of 'commedia dell'arte,' and generally speaking in the different aspects of grotesque tradition (as analyzed by Bachtin). Instructor(s): R. De Gaetano Terms Offered: Spring

Note(s): Taught in English.

Equivalent Course(s): CMST 23030, CMST 33030, ITAL 23020

# ITAL 33510. Barocco e Neobarocco. 100 Units.

This course investigates the literary, cultural, and ideological facets of seventeenth-century Italian baroque and their role in twentieth-century Italian literature. We will analyze Marino's ekphrastic poems La galeria, Adone and the genre of 'visual poetry' (poesia figurata) through a close reading of Guido Casoni's La passione di Cristo. To enlighten the baroque's emphasis on verbal/visual contamination, we will read passages from Emanuele Tesauro's II cannocchiale aristotelico and Panegirici, particularly those dedicated to the Holy Shroud of Turin, which the baroque saw as an exceptional hybrid (representation made with Christ's blood). We will read the first chapter of Marino's Dicerie sacre (La Pittura. Diceria prima sopra la Santa Sindone), selections from Basile's Lo cunto de li cunti, and Torquato Accetto's Della dissimulazione onesta. From the modern Neo-baroque, we will read texts that reflect the concepts and rhetorical strategies we found in the seventeenth-century texts. We will analyze crucial novels such as Gadda's La cognizione del dolore, Ortese's Il cardillo addolorato, Manganelli's Dall'inferno, Discorso dell'ombra e dello stemma, and Centuria. We will focus on Sanguineti's Laborintus and Zanzotto's La beltà, which is a key text of Italian poetic canon. During the course we will discuss essential secondary literature such as Benjamin's The Origins of German Tragic Drama, Calabrese's Il neobarocco, and Harrison's Reflections on Baroque.

Instructor(s): A. Maggi Terms Offered: Winter Note(s): Taught in Italian. Equivalent Course(s): ITAL 23510

#### ITAL 34920. Primo Levi. 100 Units.

Witness, novelist, essayist, translator, linguist, chemist, and even entomologist. Primo Levi is a polyhedral author, and this course revisits his work in all its facets. We will privilege the most hybrid of his texts: The Search for Roots, an anthology that collects the author's favorite readings -- a book assembled through the books of the others, but which represents Levi's most authentic portrait. By using this work as an entry point into Levi's universe, we will later explore his other texts, addressing issues such as the unsettling relationship between survival and testimony, the 'sinful' choice of fiction, the oblique path towards autobiography, and the paradoxes of witnessing by proxy.

Instructor(s): M. Mariani Terms Offered: Autumn

Prerequisite(s): Open to advanced undergrads with consent of instructor.

Note(s): Taught in Italian.

Equivalent Course(s): JWSC 24920, FNDL 24920, ITAL 24920

# ITAL 36002. Philosophical Petrarchism. 100 Units.

This course is a close reading of Petrarch's Latin corpus. Readings include the Coronation Oration, The Secret, and selections from Remedies for Fortune Fair and Foul, On Illustrious Men, On Religious Leisure, and The Life of Solitude. Special attention is devoted to Petrarch's letter collections (Letters on Familiar Matters, Letters of Old Age, Book without a Name, etc.) and his invectives. The aim of the course is to familiarize the student with the new and complete Petrarch that emerged in 2004 on the occasion of the 700th anniversary of his birth. Discussion will focus on Petrarch's self-consciousness as the 'father of humanism,' his relationship to Dante, autobiographism, dialogical inquiry, anti-scholasticism, patriotism, and Petrarch's 'civic' reception in the Quattrocento as well as on a comparative evaluation of the nineteenth-century Petrarchs of Alfred Mézières, Georg Voigt, and Francesco De Sanctis.

Instructor(s): R. Rubini Terms Offered: Autumn

Note(s): Taught in English.

Equivalent Course(s): MDVL 26002, FNDL 25802, ITAL 26002

#### ITAL 36210. The World in Ruins. 100 Units.

In this course we will not limit ourselves to the traditional view of 'ruins' as remains of ancient or modern buildings. Our course will involve a variety of different artifacts (literary texts, paintings, films, philosophical tracts, etc.) from different cultural moments, in order to attain a clearer understanding of our notion of ruins, decay, and decadence. We will first examine 'ruins' in classical cultures, focusing on Plutarch's short treatise On the Obsolescence of Oracles. We will investigate the 'discovery' of ruins in the Renaissance through Petrarch's Letters on Familiar Matters, his canzoniere, and his epic poem Africa, Francesco Colonna's verbal/visual Hypnerotomachia Poliphili (The Strife of Love in a Dream), and Joaquim De Bellay's The Antiquities of Rome. 17th-century approach to ruins and decay will focus on Benjamin's texts (Origins of the German Tragic Drama among others), Agamben's response to Benjamin in Man Without Content, and European poetry and paintings. After an analysis of Piranesi's famous etchings Vedute di Roma, we will approach Romanticism through Leopardi's and Hölderlin's works. There will be a screening of Pasolini's The Walls of Sana'a (1970), which will open our discussion of the concepts of decay and annihilation in modern times. We will read Curzio Malaparte's novel The Skin and W. G. Sebald's On the Natural History of Destruction, César Aira's Episode in the Life of a Landscape Painter, and the recent Anthropocene: The Human Epoch. Instructor(s): A. Maggi Terms Offered: Spring

Note(s): Taught in English.

Equivalent Course(s): CMLT 42311, ITAL 26210, CMLT 26211

#### ITAL 42100. Readings And Research: Italian. 100 Units.

Independent study with an individual faculty member.

Terms Offered: Autumn Spring Winter

# Portuguese

#### PORT 32350. Speaking Truth to Power in Medieval Iberia. 100 Units.

In the multilingual and multireligious environment of the Iberian middle ages, poetry can express many things. And while literary history has granted a prestigious space to some of these things, such as love or spirituality, it has consistently neglected others, such as socio-political satire or vulgarity. This class will be paying attention to that other less talked-about poetry that gets into the political struggles of the period, that talks in profanities about profane things. In other words, the poetry that does not speak to the eternity of existence, but that gets its hands dirty with earthly matters. The poetry that savagely mocks and cuts through social conventions in a way that makes seem contemporary Twitter trolls benevolent in comparison. For this class we will be reading authors who wrote in Galician-Portuguese such as Joao Soares de Paiva or King Alfonso X, authors who wrote in Catalan such as Guillem de Bergueda or Ramon Vidal de Besalu, and authors who wrote in Spanish such as Juan Ruiz or Juan de Mena. Translations to Spanish will be provided or worked though class discussion.

Instructor(s): N. Blanco Mourelle Terms Offered: Autumn

Equivalent Course(s): SPAN 32350, MDVL 22350, CATA 32350, SPAN 22350, CATA 22350, PORT 22350

#### PORT 36810. From Cannibalism to Tropicalism: Brazilian Avant-Gard. 100 Units.

Avant-garde movements, tendencies, and artists have been present in Brazil throughout the twentieth century. From the paradigmatic Week of Modern Art in 1922 to the Tropicalism of the 1960s and 1970s, this course revisits works of fiction, poetry, essay, visual arts, film, and music that have shaped the Brazilian avant-gardes. We will focus on the Modernist Movement, Concretism, Neoconcretism, New Cinema, Tropicalism, and regional avant-garde movements produced across the country.

Instructor(s): V. Saramago Terms Offered: Spring

Equivalent Course(s): LACS 36810, PORT 26810, LACS 26810

#### PORT 37200. Introduction to Brazilian Culture. 100 Units.

This course provides a survey of Brazilian culture through its literature, music, cinema, visual arts, and digital culture. Through these different media, we will discuss topics such as urban development, racial issues, gender issues, modernity, deforestation, and internal migrations, besides samba, bossa nova, funk, and visual arts movements, among others. Authors may include Machado de Assis, Oswald de Andrade, Rubem Fonseca, Bernardo Carvalho, Angélica Freitas, Glauber Rocha, Suzana Amaral, and Walter Salles.

Instructor(s): V. Saramago Terms Offered: Winter Note(s): Taught in English Equivalent Course(s): PORT 27200, LACS 37200, LACS 27200

#### PORT 42100. Reading And Research. 100 Units.

Independent study with an individual faculty member. Terms Offered: Autumn Spring Winter

#### PORT 42310. World Literatures in Dialogue: Latin American and Francophone Perspectives. 100 Units.

This course aims to explore the major debates that have surrounded the concept of 'World literature' in both Latin American and Francophone contexts. Building upon a wide range of critical works (Said, Casanova, Damrosch, Apter, Moretti), it highlights the significance of the concept of 'World literature' in two different yet equally instructive and often intersecting contexts. In the French-speaking world, this course will draw on the Manifesto 'Toward a World literature in French' (2007) signed by eminent writers from areas as diverse as Sub-Saharan Africa (Mabanckou, Waberi), North Africa (Ben Jelloun, Sansal), Indian Ocean islands (Ananda Devi, Raharimanana), and the Caribbean (Condé, Laferrière). Some of the key questions that will be studied include the critique of 'Francophonie', the question of multilingualism and its manifestations, and the relationship between world literature and cosmopolitanism. In a similar vein, the course will explore the expanding corpus of Latin American scholarship on the topic (Kristal, Siskind, Hoyos) in relation to the contributions of Latin American authors (Bolaño, García Márquez, Indiana, Lisboa, Oloixarac). This portion aims to revisit some of the topics and issues present in contemporary scholarship on world literature as they relate to earlier Latin American theory and criticism, and to discuss major contemporary works that directly intervene on world literature debates today. Instructor(s): K. Lyamlahy and V. Saramago Terms Offerred: Autumn

Note(s): Taught in English

Equivalent Course(s): CMLT 42310, LACS 42310, FREN 42310, SPAN 42310, MAPH 42310

### PORT 46402. History and Fiction. 100 Units.

We will explore the relations among historical analysis, historical narrative, and fiction, with an emphasis on the Americas. Instructor(s): D. Borges, M. Tenorio Terms Offered: Autumn

Prerequisite(s): Open to upper-level undergraduates with consent of instructors; students taking course with a Romance subject code must do readings and the final paper in French, Portuguese, or Spanish.

Equivalent Course(s): HIST 46401, LACS 44401, SPAN 46402, FREN 46402

# Romance Languages and Literatures

#### RLLT 47000. Academic Publishing. 100 Units.

This course is open to all graduate students and will be run as a workshop. The primary goal is to work on the Qualifying Paper with the objective of producing a piece of work that might, with subsequent revision, be submitted to an academic journal for publication. This course is also appropriate for anyone who wants to work on a dissertation proposal or chapter. We will cover all aspects of professional writing, from abstracts and grant proposals to revising manuscripts after readers' reports.

Instructor(s): J. Steinberg Terms Offered: Winter Note(s): Taught in English.

#### RLLT 48000. Academic Job Market Preparation. 100 Units.

Advanced RLL graduate students will prepare and polish materials needed for applying to academic jobs: cover letter, CV, dissertation abstract, research statement, teaching statement, and diversity statement. In addition we will discuss best practices for first-round interviews and campus visits. The course is strongly recommended for students in their fifth and sixth years and open to other students.

Instructor(s): L. Brewer-García Terms Offered: Spring

Prerequisite(s): Open only to RLL grad students.

# RLLT 48800. Foreign Language Acquisition, Research and Teaching. 100 Units.

This course provides students with a foundation in foreign language acquisition and sociolinguistic research pertinent to foreign language teaching, introduces current teaching methodologies and technologies, and discusses their usefulness in the classroom. Designed primarily with RLL students in mind but open to others. Instructor(s): A. McLean Terms Offered: Spring

#### Spanish

All literature courses taught in Spanish unless otherwise indicated.

#### SPAN 31700. La novela historica del presente. 100 Units.

Narratives of recovery and transmission of the historical past play a prominent role in contemporary fiction. In the case of the literatures of Spain - in Basque, Catalan, Galician, and Spanish - the attention given by novelists to the memory of the Civil War, the dictatorship, and the Transition to democracy is such that it could be argued that a new form of historical novel, a sort of 'historical novel of the present' (which founds its counterpart in the 'history of the present' that has emerged as a booming field among historians), has become one of the dominant modes of postmodern fictional writing. In this course we will explore this recent development in historical fiction through the analysis of a number of works published in the last thirty years.

Instructor(s): M. Santana Terms Offered: Spring Note(s): Taught in Spanish. Equivalent Course(s): BASQ 31700, CATA 31700

#### SPAN 31800. Culturas populares en el mundo iberico (siglos XVI-XVII) 100 Units.

The popular classes of early modern Europe engaged in a rich array of cultural practices, including the production and consumption of a wide variety of literary materials. In the Iberian peninsula, moreover, some of the central cultural phenomena of the period are difficult to understand without taking into account the specifically popular social distribution of their uses and appropriations. In this seminar we will explore, for instance, popular readings of the Amadís, carnivalesque discourses and practices, the complexity and multiplicity of the romancero, the development of popular print and pliegos de cordel, the theater of playwrights such as Gil Vicente, Lope de Rueda, Lope de Vega, and Cervantes, or the autobiographies of the Catalan tanner Miquel Parets and the Valencian typographer Juan Martín Cordero. In order to seriously engage in a theoretical discussion about the complex notion of popular culture, we will also read classic essays by Bakhtin, Burke, Ginzburg, De Certeau, Chartier, Gramsci, Frow, Fiske, Caro Baroja, Redondo, and Maravall. Instructor(s): M. Martinez

#### SPAN 32350. Speaking Truth to Power in Medieval Iberia. 100 Units.

In the multilingual and multireligious environment of the Iberian middle ages, poetry can express many things. And while literary history has granted a prestigious space to some of these things, such as love or spirituality, it has consistently neglected others, such as socio-political satire or vulgarity. This class will be paying attention to that other less talked-about poetry that gets into the political struggles of the period, that talks in profanities about profane things. In other words, the poetry that does not speak to the eternity of existence, but that gets its hands dirty with earthly matters. The poetry that savagely mocks and cuts through social conventions in a way that makes seem contemporary Twitter trolls benevolent in comparison. For this class we will be reading authors who wrote in Galician-Portuguese such as Joao Soares de Paiva or King Alfonso X, authors who wrote in Catalan such as Guillem de Bergueda or Ramon Vidal de Besalu, and authors who wrote in Spanish such as Juan Ruiz or Juan de Mena. Translations to Spanish will be provided or worked though class discussion.

Instructor(s): N. Blanco Mourelle Terms Offered: Autumn Equivalent Course(s): MDVL 22350, CATA 32350, SPAN 22350, CATA 22350, PORT 32350, PORT 22350

# SPAN 33025. Vidas Infames: Sujetos heterodoxos en el mundo hispánico (1500-1800) 100 Units.

En este curso leeremos y discutiremos las vidas de varias mujeres y hombres comunes perseguidos por la Inquisición hispánica entre 1500 y 1800, aproximadamente, tanto en Europa y el Mediterráneo como en las Américas. La mayoría de estas vidas fueron dichas por los mismos acusados frente a un tribunal eclesiástico. Estas autobiografías orales, producidas en condiciones de máxima dureza y precariedad, revelan la forma en que la vida cotidiana es moldeada e interrumpida por el poder. Leeremos las historias de hombres transgénero, mujeres criptojudías, campesinos moriscos, renegados, profetas y monjas acusadas de sodomía, entre otras; y discutiremos temas como la relación entre poder y subjetividad, heterodoxia y cultura popular, las formas narrativas del yo o la articulación biográfica de la clase, la raza y el género en la primera modernidad. Estas 'vidas ínfimas', a pesar de su concreta individualidad, permiten ofrecer un amplio panorama de la historia cultural y social de España y América en la era de la Inquisición.

Instructor(s): M. Martínez Terms Offered: Spring

Note(s): Taught in Spanish.

Equivalent Course(s): SPAN 23025, LACS 33025, LACS 23025

#### SPAN 33333. Reading Spanish for Research Purposes. 100 Units.

This intensive course is designed to take students with a basic knowledge of Spanish to the level of reading proficiency needed for research. To that end, students will work on grammar, vocabulary, and reading strategies. Students will read a range of scholarly texts, a number of which will be directly drawn from their respective areas of research. Terms Offered: Spring

Prerequisite(s): One quarter of French or equivalent, placement into SPAN 10200, or an intermediate level of another Romance or classical language.

Equivalent Course(s): SPAN 23333

### SPAN 35500. New Directions in Afro-Latin Performance. 100 Units.

This class engages contemporary conversations in the study of Afro-Latin performance and explores the work of emerging black performance artists across the hemisphere. Tracing performances of blackness from the Southern cone to the Caribbean, we will examine the ways blackness is wielded by the State and by black communities themselves in performance and visual art across the region. We ask: what is the relationship between race and theatricality? What work is blackness made to do in states organized around discourses of racial democracy and mestizaje? How are notions of diaspora constructed through performances of blackness? We take up these questions in our study of reggaetón, hip hop, samba, el baile de los negritos and examine the works of noted and upcoming black artists such as Victoria and Nicomedes Santa-Cruz, Carlos Martiel, Las Nietas de Nonó, and others.

Instructor(s): D. Roper Terms Offered: Spring

Prerequisite(s): Knowledge of Spanish is recommended

Note(s): While the course will be taught in English, many of the performances and at least four of the readings will be in Spanish.

Equivalent Course(s): LACS 35501, TAPS 34880

# SPAN 35520. Narrativas trans en la cultura catalana del siglo XX. 100 Units.

Este curso ofrece una síntesis crítica de algunas de las representaciones más destacadas de las vidas las personas trans (transformistas, travestidas y transexuales) en la Barcelona del período que transcurre entre 1914 y 1980 a partir de los testimonios literarios disponibles -redactados fundamentalmente en catalán y en español- que reflejaron las voces, los ecos y las distorsiones de la diversidad sexual en las culturas ibéricas del siglo XX. Estas fuentes primarias se interrelacionarán con documentos periodísticos y ensayísticos, con fotografías y cómics, con películas de ficción y documentales que permitirán profundizar en cuestiones sociales e históricas que incidieron en la plural percepción (auto)biográfica y en los debates sobre la noción de género sexual a lo largo del siglo XX. La ciudad de Barcelona será considerada, por consiguiente, epicentro geográfico real y metáfora de libertades políticas, colectivas e individuales.

Instructor(s): R. Mérida

Note(s): Taught in Spanish.

Equivalent Course(s): SPAN 25520, CATA 35520, CATA 25520

SPAN 37020. Christianity and Islam in the Western Mediterranean World during the Late Middle Ages. 100 Units.

El curso analizará los contactos mantenidos entre mundo cristiano y mundo islámico en el Mediterráneo bajomedieval, tomando la Corona de Aragón y sus ricas fuentes documentales como observatorio privilegiado. Las particularidades de la Corona de Aragón se compararán con las de otros estados cristianos del Occidente mediterráneo que mantuvieron relaciones sostenidas con los musulmanes. Tras la definición de la naturaleza y de las especificidades de los contactos político-diplomáticos, mercantiles y pirático-corsarios entre Cristiandad e Islam, las clases se focalizarán en la identificación y caracterización de colectivos y personas que actuaron como mediadores lingüísticos y culturales entre ambas realidades. Se determinarán las circunstancias y motivos que permitieron que agentes diplomáticos, mercaderes, mercenarios, piratascorsarios o cautivos-esclavos vehicularan los contactos. Y se analizarán y compararán las distintas tipologías documentales que son plasmación de todos esos intercambios y contactos culturales y humanos.

Instructor(s): R. Salicrú i Lluch Terms Offered: Spring

Note(s): Taught in Spanish.

Equivalent Course(s): CATA 27020, MDVL 27020, RLST 27020, SPAN 27020, CATA 37020
# SPAN 37401. Literaturas del Caribe Hispanico en el siglo XX. 100 Units.

En este curso se estudiarán algunos ejemplos salientes de las literaturas producidas en el Caribe hispánico insular (Cuba, Puerto Rico y Santo Domingo) durante el siglo XX y a principios del XXI. Entre los asuntos a discutir tendrán un lugar principal los modos en que esta producción se ha constituído como respuesta y elaboración estética de las historias de esclavitud, violencia racial y colonialismo, de militarización y desplazamientos territoriales migratorios, que han marcado a la región en su carácter de frontera imperial desde el siglo XVI. En el curso también se abordará la condición simbólica del Caribe como espacio de utopías y catástrofes, escenario previlegiado tanto de las aspiraciones revolucionarias propias de la modernidad (e.g. la Revolución Haitiana del 1791 y la Revolución Cubana del 1959) como de los terrores de la destrucción ecológica (con su experiencia cruel de huracanes y terremotos).

Instructor(s): A. Lugo-Ortiz Terms Offered: Autumn

Prerequisite(s): At least one of the following courses: SPAN 21500, 21703, 21803, 21903, or 22003.

Note(s): Taught in Spanish.

Equivalent Course(s): LACS 27401, CRES 37401, LACS 37401, SPAN 27401, CRES 27401

# SPAN 38810. Empire, Slavery & Salvation: Writing Diff. in Colonial Americas. 100 Units.

This course explores portrayals of human difference in literature, travel writing, painting, and autobiography from Spain, England, and the Americas. Students will become versed in debates surrounding the emergence of human distinctions based on religion, race, and ethnicity in the early modern era. Understanding these debates and the history surrounding them is crucial to participating in informed discussion, research, and activism regarding issues of race, empire, and colonialism across time and space.

Instructor(s): L. Brewer-García Terms Offered: Autumn Equivalent Course(s): CMLT 38810, LACS 38810

## SPAN 39117. Theater and Performance in Latin America. 100 Units.

What is performance? How has it been used in Latin America and the Caribbean? This course is an introduction to theatre and performance in Latin America and the Caribbean that will examine the intersection of performance and social life. While we will place particular emphasis on performance art, we will examine some theatrical works. We ask: how have embodied practice, theatre and visual art been used to negotiate ideologies of race, gender and sexuality? What is the role of performance in relation to systems of power? How has it negotiated dictatorship, military rule, and social memory? Ultimately, the aim of this course is to give students an overview of Latin American performance including blackface performance, indigenous performance, as well as performance and activism.

Instructor(s): D. Roper Terms Offered: Autumn

Prerequisite(s): Undergraduates must be in their third or fourth year

Note(s): Taught in English.

Equivalent Course(s): SPAN 29117, TAPS 38479, CRES 39117, LACS 29117, TAPS 28479, CRES 29117, GNSE 39117, LACS 39117, GNSE 29117

# SPAN 42100. Rdgs/Rsch: Spanish. 100 Units.

Independent study with an individual faculty member.

Terms Offered: Autumn Spring Winter

# SPAN 42310. World Literatures in Dialogue: Latin American and Francophone Perspectives. 100 Units.

This course aims to explore the major debates that have surrounded the concept of 'World literature' in both Latin American and Francophone contexts. Building upon a wide range of critical works (Said, Casanova, Damrosch, Apter, Moretti), it highlights the significance of the concept of 'World literature' in two different yet equally instructive and often intersecting contexts. In the French-speaking world, this course will draw on the Manifesto 'Toward a World literature in French' (2007) signed by eminent writers from areas as diverse as Sub-Saharan Africa (Mabanckou, Waberi), North Africa (Ben Jelloun, Sansal), Indian Ocean islands (Ananda Devi, Raharimanana), and the Caribbean (Condé, Laferrière). Some of the key questions that will be studied include the critique of 'Francophonie', the question of multilingualism and its manifestations, and the relationship between world literature and cosmopolitanism. In a similar vein, the course will explore the expanding corpus of Latin American scholarship on the topic (Kristal, Siskind, Hoyos) in relation to the contributions of Latin American authors (Bolaño, García Márquez, Indiana, Lisboa, Oloixarac). This portion aims to revisit some of the topics and issues present in contemporary scholarship on world literature as they relate to earlier Latin American theory and criticism, and to discuss major contemporary works that directly intervene on world literature debates today. Instructor(s): K. Lyamlahy and V. Saramago Terms Offered: Autumn

Note(s): Taught in English

Equivalent Course(s): CMLT 42310, LACS 42310, FREN 42310, MAPH 42310, PORT 42310

# SPAN 43333. Waiting for the End of the World. 100 Units.

From the beginning of its recorded history, humanity has always been equally fascinated and terrified with the representation of its own finitude. This class explores some of the cultural forms that the imagination of this finitude has inspired in religious, socio-political, and aesthetic terms, focusing on apocalyptic productions coming from the Iberian Middle Ages, such as Julian de Toledo, Beatus de Liebana, Gonzalo de Berceo, or Ramon Llull. Our goal will be to confront the nightmarish scenarios that different forms of society imagined for their ending. In doing so, we will discover that such scenarios for the end of the world, or, at least, the end of the world as humans conceive it, reveal deeply rooted forms of ideological violence, social exclusion, and fear of a chaotic and unpredictable universe. Ultimately, these forms of imagining the end of the world are the proof that it is inherent to the human condition to imagine itself as the center of its own universe, while suspecting that this exceptionality is nothing but wishful thinking. The class will function like a seminar and be discussion-based.

Instructor(s): N. Blanco Mourelle Terms Offered: Winter Note(s): Class discussions and reading materials in Spanish.

## SPAN 46402. History and Fiction. 100 Units.

We will explore the relations among historical analysis, historical narrative, and fiction, with an emphasis on the Americas. Instructor(s): D. Borges, M. Tenorio Terms Offered: Autumn

Prerequisite(s): Open to upper-level undergraduates with consent of instructors; students taking course with a Romance subject code must do readings and the final paper in French, Portuguese, or Spanish. Equivalent Course(s): PORT 46402, HIST 46401, LACS 44401, FREN 46402

# SPAN 49350. Literatura e ideas en el Caribe Hispánico: El siglo XIX. 100 Units.

En este curso examinaremos algunas de las principales corrientes intelectuales del Caribe Hispánico durante el siglo XIX y sus relaciones con la producción literaria de la época. Para ello nos enfocaremos en la lectura cuidadosa de una serie de documentos históricos y de textos literarios clave. En particular, haremos hincapié en los modos en que algunas de las ideas de la Ilustración, del liberalismo y del positivismo filosóficos fueron refuncionalizadas al interior de los debates en torno a la esclavitud así como de los proyectos de independencia nacional y de reforma social que se escenificaron en la región durante este periodo, procurando destacar sus efectos para el desarrollo de determinadas estéticas literarias y retóricas políticas. ¿En qué medida los postulados de la Ilustración sirivieron para estructurar el imaginario pro y anti-esclavista del Caribe Hispánico? ¿Cuál fue la naturaleza de las relaciones entre liberalismo y abolicionismo? ¿Hasta qué punto ciertos principios conceptuales asociados al desarrollo de las modernas ciencias naturales vinieron a apoyar o a cuestionar --y por ende a narrar-- la legitimidad del orden colonial y de los proceso de emancipación social (tales como aquellos relacionados a los derechos de las mujeres y al temprano movimiento obrero) que se despegaron hacia finales del siglo? Y finalmente, ¿cómo la literatura terminó participando de estas polémicas, transformándolas estéticamente en proyectos de ficción? Instructor(s): A. Lugo-Ortiz Terms Offered: Spring Note(s): Taught in Spanish.

Equivalent Course(s): LACS 46350



# Department of Slavic Languages and Literatures

Chair

William Nickell

Professors

- Robert Bird
- Bozena Shallcross
- Associate Professors
- William Nickell
- Malynne Sternstein

Directors

- Malynne Sternstein Director of Undergraduate Studies
- Bozena Shallcross Director of Graduate Studies

Senior Lecturers

Erik Houle

Valentina Pichugin

- Instructional Professors
- Angelina Ilieva
- Nada Petkovic

Assistant Instructional Professors

- Mark Baugher
- Dag Lindskog
- Maria Yakubovich

Emeritus Faculty

- Howard I. Aronson
- Bill Darden
- Samuel Sandler

Associate Faculty

- Maria Belodubrovskaya, Cinema and Media Studies
- Leah Feldman, Comparative Literature
- Scott Gehlbach, Political Science
- Eleanora Gilburd, History
- Lenore Grenoble, Linguistics
- Faith Hillis, History
- Matthew Jesse Jackson, Art History & Visual Arts
- Eugene Raikhel, Comparative Human Development
- Olga Solovieva, Comparative Literature
- Konstantin Sonin, Harris School of Public Policy
- Anna Torres, Comparative Literature
- Tara Zahra, History

## Admissions

The Slavic Department will not be accepting applications to the PhD program for the 2020-21 academic year. Those interested working with our faculty in their PhD studies should apply to PhD programs in related fields such as Comparative Literature, Cinema and Media Studies, and Linguistics.

Students seeking a master's degree may apply to the Master of Arts Program in the Humanities (MAPH). This program has one-year and two-year tracks: both allow students to build their own curriculum with graduate-level courses in any humanities department (including Slavic Languages and Literatures) and complete a thesis with a University of Chicago faculty adviser. The two-year program includes extensive language training, and would allow students to study BCS

(Bosnian/Serbian/Croatian), Bulgarian, Czech, Polish, and Russian through the Slavic Department. Further details about the MAPH program are available at http://maph.uchicago.edu/

#### Contact Information

For additional information about the Department of Slavic Languages and Literatures, please see http:// slavic.uchicago.edu/ or e-mail <slavic-department@uchicago.edu>.

#### Courses

The actual offerings for the year will be found on the University Registrar website (http://registrar.uchicago.edu/).

# Bosnian, Croatian, and Serbian Courses

BCSN 31104. Advanced Bosnian/Croatian/Serbian: Language through Fiction. 100 Units.

This one quarter course is designed to help students over one of the most difficult hurdles in language training-the transition from working through lessons in a textbook to reading unedited literary texts. The selected pieces of fiction and the exercises drawn from them engage the language's structure on every page. Immersed in a complete language experience, students learn how to engage the natural, organic language of literary texts across a variety of styles and themes enabling them to work with ever more challenging material. The course objective is to hone students' abilities to analyze increasingly complex unrevised texts, identify various styles and registers of the language, and handle linguistically unfamiliar situations in both spoken and written format. Attention is given to improving students' abilities to paraphrase, narrate, describe, support opinions, hypothesize and discuss abstract topics. Building vocabulary is stressed as a key to making progress, while issues of language structure and grammar are reinforced throughout the course. Classes are conducted in the target language and may be taken for pass/fail. The prerequisite is two years of formal study of the target language or the equivalent. Instructor(s): Nada Petkovic Terms Offered: Autumn

Equivalent Course(s): BCSN 21101, REES 21101, REES 31104

# BCSN 31203. Advanced Bosnian/Croatian/Serbian: Language Through Film. 100 Units.

Advanced BCS courses encompass both the 3rd and 4th years of language study, with the focus changed from language structure and grammar to issues in interdisciplinary content. The courses are not in sequence. This course addresses the theme of Yugoslav and Post-Yugoslav identity through discussion and interpretation based on selected films, documentaries, images, and related texts-historical and literary, popular press, advertisements, screenplays, and literature e on film. Emphasis is on interpersonal communication as well as the interpretation and production of language in written and oral forms. The course engages in systematic grammar review, along with introduction of some new linguistic topics, with constant practice in writing and vocabulary enrichment. The syllabus includes the screening of six films, each from a different director, region, and period, starting with Cinema Komunisto (2012), a documentary by Mila Turajlic. This film will be crucial for understanding how Yugoslav cinema was born and how, in its origins, it belongs to what a later cinephile, Fredric Jameson, has called a "geopolitical aesthetic." We shall investigate the complex relationship between aesthetics and ideology in the Yugoslav and Post-Yugoslav cinema, and pay close attention to aesthetic conceptions and concrete formal properties, and more importantly, to language, narrative logic, and style.

Instructor(s): Nada Petkovic Terms Offered: Winter

Equivalent Course(s): BCSN 21200, REES 21200, REES 31203

#### BCSN 31303. (Re)Branding the Balkan City: Comtemp. Belgrade/Sarajevo/Zagreb. 100 Units.

The course uses an urban studies lens to explore the complex history, infrastructure and transformations of cities, mainly the capitals of today's Serbia, Bosnia and Hercegovina, and Croatia. There is a particular need to survey this region and feed the newfound interest in it, mainly because Yugoslav architecture embodied one of the great political experiments of the modern era. Drawing on anthropological theory and ethnography of the city, we consider processes of urban destruction and renewal, practices of branding spaces and identities, urban life as praxis, art and design movements, film, music, food, architectural histories and styles, metropolitan citizenship, and the broader politics of space. The course is complemented by cultural and historical media, guest speakers, and virtual tours. One of them is a tour through the 2018 show at MoMA "Toward a Concrete Utopia: Architecture in Yugoslavia 1948-1980" a project curated with the goal to find a place for Yugoslav Modernism in the architectural canon. Classes are held in English. No knowledge of South Slavic languages is required. Instructor(s): Nada Petkovic Terms Offered: Spring

Equivalent Course(s): BCSN 21300, REES 31303, ARCH 21300, REES 21300

# BCSN 31403. Advanced BCS: Language through Art and Architecture. 100 Units.

This course foregrounds different periods in Yugoslav and post-Yugoslav art and architecture. Situated between the capitalist West and the socialist East, Yugoslavia's architects responded to contradictory demands and influences, developing a postwar architecture both in line with and distinct from the design approaches seen elsewhere in Europe and beyond. Drawing on the country's own idiosyncrasies, diverse heritage and influences, the course surveys examples of architectural styles from classical to Baroque, through Art Nouveau and Modernism, all the way to full-blown Brutalism with its heft and material honesty. Given that Yugoslav architecture also expressed one of the great political experiments of the modern era, the course entertains many questions on related topics. While exploring major cities, their infrastructure, houses, buildings, monuments, churches and more, the course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in the target language and may be taken for pass/fail. The prerequisite is two years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Spring

Prerequisite(s): The course prerequisite is two years of formal study of the target language(s) or the consent of the instructor. Equivalent Course(s): REES 21400, REES 31403, BCSN 21400

## BCSN 39910. Special Topics in Bosnian/Croatian/Serbian I. 100 Units.

The course is designed to meet the specific needs of advanced learners of Bosnian/Croatian/Serbian, including heritage and native speakers, and to foster cross-cultural experiences through interdisciplinary content. The curriculum covers a wide range of topics relative to the students' field of study, research and personal interests. Although grounded in the field of philology, it expands students' knowledge in other disciplines of social and behavioral sciences such as history, anthropology, global studies, economics, political science, sociology, and the like. Attention is given to the ability to paraphrase scholarly arguments, formulate research hypotheses, and present research in the target language. The course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in BCS. The prerequisite is three years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Autumn

Equivalent Course(s): REES 29913, REES 39913, BCSN 29910

# BCSN 39911. Special Topics in Bosnian/Croatian/Serbian II. 100 Units.

The course is designed to meet the specific needs of advanced learners of B/C/S, including heritage and native speakers, and to foster cross-cultural experiences through its interdisciplinary content. The curriculum covers a wide range of topics relative to the students' field of study, research and personal interests. Although grounded in the field of philology, it expands students' knowledge in other disciplines of social and behavioral sciences such as history, anthropology, global studies, economics, political science, sociology, and the like. Attention is given to the ability to paraphrase scholarly arguments, formulate research hypotheses, and present one's research in the target language. The course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in B/C/S; the prerequisite is three years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Winter

Equivalent Course(s): BCSN 29911, REES 29914, REES 39914

## BCSN 39912. Special Topics in Bosnian/Croatian/Serbian III. 100 Units.

The course is designed to meet the specific needs of advanced learners of B/C/S, including heritage and native speakers, and to foster cross-cultural experiences through its interdisciplinary content. The curriculum covers a wide range of topics relative to the students' field of study, research and personal interests. Although grounded in the field of philology, it expands students' knowledge in other disciplines of social and behavioral sciences such as history, anthropology, global studies, economics, political science, sociology, and the like. Attention is given to the ability to paraphrase scholarly arguments, formulate research hypotheses, and present one's research in the target language. The course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in B/C/S; the prerequisite is three years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Spring Equivalent Course(s): REES 39915, REES 29915, BCSN 29912

Czech Courses

Courses

General Slavic Courses

SLAV 70000. Advanced Study: Slavic Languages & Literatures. 300.00 Units.

Advanced Study: Slavic Languages & Literatures

# Polish Courses

# POLI 39700. Reading and Research Course. 100 Units.

This is an independent study course which is arranged, planned, and managed by a supervising professor in conjunction with the goals that are proposed by the student, and then refined and approved by the supervising professor. This course involves more student self-discipline and a greater sense of direction than do most courses - the student must be willing to plan and execute his/her activities with much less monitoring and without prompting by fellow classmates. The student and the professor discuss and propose goals, topics, and projects.

Instructor(s): Dag Lindskog Terms Offered: Autumn

Note(s): Consent of instructor and Departmental Adviser Note(s): Students are required to submit the College Reading and Research Course Form.

POLI 39900. Rdg Course: Polish Lit I. 100 Units.

POLI 39901. Reading Course: Polish Lit I. 100 Units.

POLI 39902. Reading Course: Polish Lit II. 100 Units.

#### POLI 39903. Reading Course: Polish Lit III. 100 Units.

Advanced Polish studies.

# Russian Courses

#### RUSS 30102-30202-30302. Advanced Russian through Media I-II-III.

This course, which is designed for fifth-year students of Russian, covers various aspects of Russian stylistics and discourse grammar in context. It emphasizes the four communicative skills (i.e., reading, writing, listening comprehension, speaking) in culturally authentic context. Clips from Russian/Soviet films and television news reports are shown and discussed in class. Classes conducted in Russian.

# RUSS 30102. Advanced Russian through Media I. 100 Units.

This is a three-quarter sequence designed for fourth- and fifth-year students of Russian. It is also suitable for native speakers of Russian. This sequence covers various aspects of advanced Russian stylistics and discourse grammar in context. This sequence emphasizes the four communicative skills of listening, reading, speaking, and writing in a culturally authentic context. It builds transcultural competence by expanding students' knowledge of the language, culture, history, and daily lives of the Russian-speaking people. Vocabulary building is strongly emphasized. We add to the existing skills and develop our abilities to analyze increasingly complex texts for their meaning: to identify various styles and registers of the Russian language and to provide their neutral equivalents in standard Russian. We also work on developing our abilities to paraphrase, narrate, describe, support opinions, hypothesize, discuss abstract topics, and handle linguistically unfamiliar situations (in spoken and written format). Classes conducted in Russian. Course-specific grammar issues are covered during drill sessions (weekly) and office hours (by appointment). Oral Proficiency Interviews are conducted in the beginning and the end of the course (Autumn and Spring Quarters). Prerequisite(s): Four years of Russian, or equivalent, or consent of instructor.

Instructor(s): Valentina Pichugin Terms Offered: Autumn

Prerequisite(s): Four years of Russian, or equivalent, or consent of instructor.

Equivalent Course(s): REES 30102, REES 21302, RUSS 21302

# RUSS 30202. Advanced Russian through Media II. 100 Units.

This is a three-quarter sequence designed for fourth- and fifth-year students of Russian. It is also suitable for native speakers of Russian. This sequence covers various aspects of advanced Russian stylistics and discourse grammar in context. This sequence emphasizes the four communicative skills of listening, reading, speaking, and writing in a culturally authentic context. It builds transcultural competence by expanding students' knowledge of the language, culture, history, and daily lives of the Russian-speaking people. Vocabulary building is strongly emphasized. We add to the existing skills and develop our abilities to analyze increasingly complex texts for their meaning: to identify various styles and registers of the Russian language and to provide their neutral equivalents in standard Russian. We also work on developing our abilities to graphrase, narrate, describe, support opinions, hypothesize, discuss abstract topics, and handle linguistically unfamiliar situations (in spoken and written format).

Instructor(s): Valentina Pichugin Terms Offered: Winter

Prerequisite(s): Four years of Russian, or equivalent, or consent of instructor.

Note(s): Classes conducted in Russian. Course-specific grammar issues are covered during drill sessions (weekly) and office hours (by appointment). Oral Proficiency Interviews are conducted in the beginning and the end of the course (Autumn and Spring Quarters).

Equivalent Course(s): RUSS 21402

## RUSS 30302. Adv Russian Through Media-III. 100 Units.

This course, which is designed for fifth-year students of Russian, covers various aspects of Russian stylistics and discourse grammar in context. It emphasizes the four communicative skills (i.e., reading, writing, listening comprehension, speaking) in culturally authentic context. Clips from Russian/Soviet films and television news reports are shown and discussed in class. Classes conducted in Russian. Conversation practice is held twice a week. Instructor(s): Valentina Pichugin Terms Offered: Spring

Equivalent Course(s): REES 30302, RUSS 21502, REES 21502

# RUSS 30902. Third-Year Russian through Culture III. 100 Units.

This course, which is intended for third-year students of Russian, covers various aspects of Russian grammar in context and emphasizes the four communicative skills (i.e., reading, writing, listening comprehension, speaking) in a culturally authentic context. Excerpts from popular Soviet/Russian films and clips from Russian television news reports are shown and discussed in class. Classes conducted in Russian; some aspects of grammar explained in English. Drill practice is held twice a week. Equivalent Course(s): REES 30902, RUSS 20902, REES 20902

# RUSS 33333. Reading Russian for Research Purposes. 100 Units.

This course prepares students to read and do research in Russian. Students will gain a fundamental knowledge of Russian grammar and a basic vocabulary while learning to work intensively with primary and secondary texts in their area of academic interest. Reading Russian for Research Purposes has a limited number of spots available for participation via electronic course sharing, intended for students who are unable to be in Chicago physically for the course. Instructor(s): Staff Terms Offered: TBD

Equivalent Course(s): RUSS 23333

## RUSS 34504. Russian Poetry from Blok to Pasternak. 100 Units.

We will survey the selected poetry of major Russian modernists from 1900 to 1935, including lyrical and narrative genres. Poets covered include: Aleksandr Blok, Andrei Belyi, Viacheslav Ivanov, Nikolai Gumilev, Osip Mandel'shtam, Anna Akhmatova, Velimir Khlebnikov, Vladimir Mayakovsky, Marina Tsvetaeva, Boris Pasternak. In addition to tracing the development of poetic doctrines (from symbolism through acmeism and futurism), we will investigate the close correlations between formal innovation and the changing semantics of Russian poetry. Attention will also be paid to contemporary developments in Western European poetry. Knowledge of Russian required.

Instructor(s): R. Bird, B. Maslov Terms Offered: Winter

Prerequisite(s): Knowledge of Russian required.

Equivalent Course(s): CMLT 34504

# RUSS 35502. The Russian Novel. 100 Units.

The course will focus on three of the greatest philosophical crime novels in modern literature: Gogol's Dead Souls, Dostoevsky's Crime and Punishment, and Bely's Peterburg. Together they chart the course of development of the Russian novel, engaging literature's essential questions, but also its "accursed" ones, as the Russians say-the ones that can never be answered, but provoke the most worthy of sort of debate.

Instructor(s): William Nickell Terms Offered: Winter

Equivalent Course(s): FNDL 25334, RUSS 25502

# RUSS 39910. Special Topics in Advanced Russian. 100 Units.

Must complete Advanced Russian through Media or equivalent, or obtain consent of instructor. Class meets for 2 hours each week. We'll work with several topics, all of them are relevant to the general theme of "Geography and Worldview: Russian Perspective". There will be maps, reading materials, several documentaries, clips from TV programs and other media, and feature films. Class meetings will be a combination of group discussions, short presentations, and lectures. Final - one term paper at the end (in English) based on Russian materials.

Instructor(s): Valentina Pichugin Terms Offered: Autumn Equivalent Course(s): RUSS 29910

# RUSS 39911. Special Topics in Advanced Russian. 100 Units.

Must complete Advanced Russian through Media or equivalent, or obtain consent of instructor. Class meets for 2 hours each week. We'll work with several topics, all of them are relevant to the general theme of "Geography and Worldview: Russian Perspective". There will be maps, reading materials, several documentaries, clips from TV programs and other media, and feature films. Class meetings will be a combination of group discussions, short presentations, and lectures. Final - one term paper at the end (in English) based on Russian materials.

Instructor(s): Valentina Pichugin Terms Offered: Winter Equivalent Course(s): RUSS 29911

# RUSS 39912. Special Topics in Advanced Russian. 100 Units.

Must complete Advanced Russian through Media or equivalent, or obtain consent of instructor. Class meets for 2 hours each week. We'll work with several topics, all of them are relevant to the general theme of "Geography and Worldview: Russian Perspective". There will be maps, reading materials, several documentaries, clips from TV programs and other media, and feature films. Class meetings will be a combination of group discussions, short presentations, and lectures. Final - one term paper at the end (in English) based on Russian materials.

Instructor(s): Valentina Pichugin Terms Offered: Spring

Equivalent Course(s): RUSS 29912, REES 39912, REES 29912

# South Slavic Courses

Russian and East European Studies Courses

# REES 30000. Tolstoy's Late Works. 100 Units.

This course examines the works written by Tolstoy after Anna Karenina, when he abandoned the novel as a form and gave up his copyright. Readings include his influential writings on non-violence and vegetarianism, his challenges to church and state authority, as well as later literary works, which some believe surpass the famous novels he had renounced. We will also explore the particularities of Tolstoy's charisma in these years, when he came to be viewed as a second Tsar in Russia and as a moral authority throughout the world.

Instructor(s): William Nickell Terms Offered: Spring

Equivalent Course(s): RLIT 32900, REES 20000, RLST 28501, FNDL 22850

# REES 30001. War and Peace. 100 Units.

Tolstoy's novel is at once a national epic, a treatise on history, a spiritual meditation, and a masterpiece of realism. This course presents a close reading of one of the world's great novels, and of the criticism that has been devoted to it, including landmark works by Victor Shklovsky, Boris Eikhenbaum, Isaiah Berlin, and George Steiner. (B, G) Instructor(s): William Nickell Terms Offered: TBD

Equivalent Course(s): REES 20001, FNDL 27103, HIST 23704, CMLT 32301, ENGL 32302, CMLT 22301, ENGL 28912

# REES 30013. Dostoevsky. 100 Units.

Dostoevsky was an inveterate risk-taker, not only at the baccarat tables of the Grand Casino in Baden-Baden, but in his personal life, his political activities, and his artistic endeavors. This course is intended to investigate his two greatest wagers: on the presence of the divine in the world and on the power of artistic form to convey and articulate this presence. Dostoevsky's wager on form is evident even in his early, relatively conventional texts, like The Double. It intensifies after his decade-long sojourn in Siberia, exploding in works like The Notes from Underground, which one-and-a-half centuries later remains an aesthetic and philosophical provocation of immense power. The majority of the course will focus on Dostoevsky's later novels. In Crime and Punishment Dostoevsky adapts suspense strategies to create a metaphysical thriller, while in The Demons he pairs a study of nihilism with the deformation of the novel as a genre. Through close readings of these works we will trace how Dostoevsky's formal experimentation created new ways of exploring realms of existence that traditionally belonged to philosophy and theology. The results were never comfortable or comforting; we will focus on interpreting Dostoevsky's metaphysical provocations.

Instructor(s): R. Bird Terms Offered: Spring

Equivalent Course(s): RLST 28204, REES 20013, RLIT 39501, FNDL 24612, HUMA 24800

## REES 30020. Pale Fire. 100 Units.

This course is an intensive reading of Pale Fire by Nabokov. Equivalent Course(s): REES 20020, FNDL 25311, GNSE 39610, GNSE 29610, ENGL 22817

## REES 30102. Advanced Russian through Media I. 100 Units.

This is a three-quarter sequence designed for fourth- and fifth-year students of Russian. It is also suitable for native speakers of Russian. This sequence covers various aspects of advanced Russian stylistics and discourse grammar in context. This sequence emphasizes the four communicative skills of listening, reading, speaking, and writing in a culturally authentic context. It builds transcultural competence by expanding students' knowledge of the language, culture, history, and daily lives of the Russian-speaking people. Vocabulary building is strongly emphasized. We add to the existing skills and develop our abilities to analyze increasingly complex texts for their meaning: to identify various styles and registers of the Russian language and to provide their neutral equivalents in standard Russian. We also work on developing our abilities to paraphrase, narrate, describe, support opinions, hypothesize, discuss abstract topics, and handle linguistically unfamiliar situations (in spoken and written format). Classes conducted in Russian. Course-specific grammar issues are covered during drill sessions (weekly) and office hours (by appointment). Oral Proficiency Interviews are conducted in the beginning and the end of the course (Autumn and Spring Quarters). Prerequisite(s): Four years of Russian, or equivalent, or consent of instructor.

Instructor(s): Valentina Pichugin Terms Offered: Autumn

Prerequisite(s): Four years of Russian, or equivalent, or consent of instructor. Equivalent Course(s): REES 21302, RUSS 21302, RUSS 30102

## REES 30302. Adv Russian Through Media-III. 100 Units.

This course, which is designed for fifth-year students of Russian, covers various aspects of Russian stylistics and discourse grammar in context. It emphasizes the four communicative skills (i.e., reading, writing, listening comprehension, speaking) in culturally authentic context. Clips from Russian/Soviet films and television news reports are shown and discussed in class. Classes conducted in Russian. Conversation practice is held twice a week.

Instructor(s): Valentina Pichugin Terms Offered: Spring

Equivalent Course(s): RUSS 21502, RUSS 30302, REES 21502

## REES 30902. Third-Year Russian through Culture III. 100 Units.

This course, which is intended for third-year students of Russian, covers various aspects of Russian grammar in context and emphasizes the four communicative skills (i.e., reading, writing, listening comprehension, speaking) in a culturally authentic context. Excerpts from popular Soviet/Russian films and clips from Russian television news reports are shown and discussed in class. Classes conducted in Russian; some aspects of grammar explained in English. Drill practice is held twice a week. Equivalent Course(s): RUSS 30902, RUSS 20902, REES 20902

# REES 31000. Gombrowicz: The Writer as Philosopher. 100 Units.

In this course, we dwell on Witold Gombrowicz the philosopher, exploring the components of his authorial style and concepts that substantiate his claim to both the literary and the philosophical spheres. Entangled in an ongoing battle with basic philosophical tenets and, indeed, with existence itself, this erudite Polish author is a prime example of a 20th century modernist whose philosophical novels explode with uncanny laughter. In contrast to many of his contemporaries, who established their reputations as writers/philosophers, Gombrowicz applied distinctly literary models to the same questions that they explored. We investigate these models in depth, as we focus on Gombrowicz's novels, philosophical lectures, and some of his autobiographical writings. With an insight from recent criticism of these primary texts, we seek answers to the more general question: What makes this author a philosopher?

Instructor(s): Bozena Shallcross Terms Offered: TBD

Note(s): All readings in English.

Equivalent Course(s): FNDL 26903, ISHU 29405, REES 21000

## REES 31005. Bruno Schulz: An Unfinished Project. 100 Units.

This course examines the fictional, non-fictional and visual oeuvre of the brilliant Polish-Jewish modernist Bruno Schulz who perished in the Holocaust. This year marks not only the 120th anniversary of his birth but also the 70th anniversary of his death in the same town of Drohobycz on the southeastern border of Poland. These dates bracket his relatively short life and are evocative of his several unfinished authorial projects. During the course, we will focus on Schulz's concept of creation through his use of aesthetics of trash and a debased form, kabalistic origins of a fragment, temporality and its movements, myths of province and childhood. We will seek critical answers to his artistic predilection of parochial places and conspiratorial perspectives, masochism, as well as the notion of the moment as both auratic and poetic, in sum, for those components of his world which made him an illusive modernist like no other in his time. The course will be supplemented by the construal of Schulz's legend in contemporary American fiction (Cynthis Ozick, Jonathan Safran Foer, and Nicole Krauss). All readings in English translation.

Instructor(s): B. Shallcross Terms Offered: Autumn

Equivalent Course(s): JWSC 26360

# REES 31104. Advanced Bosnian/Croatian/Serbian: Language through Fiction. 100 Units.

This one quarter course is designed to help students over one of the most difficult hurdles in language training-the transition from working through lessons in a textbook to reading unedited literary texts. The selected pieces of fiction and the exercises drawn from them engage the language's structure on every page. Immersed in a complete language experience, students learn how to engage the natural, organic language of literary texts across a variety of styles and themes enabling them to work with ever more challenging material. The course objective is to hone students' abilities to analyze increasingly complex unrevised texts, identify various styles and registers of the language, and handle linguistically unfamiliar situations in both spoken and written format. Attention is given to improving students' abilities to paraphrase, narrate, describe, support opinions, hypothesize and discuss abstract topics. Building vocabulary is stressed as a key to making progress, while issues of language structure and grammar are reinforced throughout the course. Classes are conducted in the target language and may be taken for pass/fail. The prerequisite is two years of formal study of the target language or the equivalent. Instructor(s): Nada Petkovic Terms Offered: Autumn

Equivalent Course(s): BCSN 31104, BCSN 21101, REES 21101

# REES 31203. Advanced Bosnian/Croatian/Serbian: Language Through Film. 100 Units.

Advanced BCS courses encompass both the 3rd and 4th years of language study, with the focus changed from language structure and grammar to issues in interdisciplinary content. The courses are not in sequence. This course addresses the theme of Yugoslav and Post-Yugoslav identity through discussion and interpretation based on selected films, documentaries, images, and related texts-historical and literary, popular press, advertisements, screenplays, and literature e on film. Emphasis is on interpersonal communication as well as the interpretation and production of language in written and oral forms. The course engages in systematic grammar review, along with introduction of some new linguistic topics, with constant practice in writing and vocabulary enrichment. The syllabus includes the screening of six films, each from a different director, region, and period, starting with Cinema Komunisto (2012), a documentary by Mila Turajlic. This film will be crucial for understanding how Yugoslav cinema was born and how, in its origins, it belongs to what a later cinephile, Fredric Jameson, has called a "geopolitical aesthetic." We shall investigate the complex relationship between aesthetics and ideology in the Yugoslav and Post-Yugoslav cinema, and pay close attention to aesthetic conceptions and concrete formal properties, and more importantly, to language, narrative logic, and style.

Instructor(s): Nada Petkovic Terms Offered: Winter

Equivalent Course(s): BCSN 21200, REES 21200, BCSN 31203

# REES 31303. (Re)Branding the Balkan City: Comtemp. Belgrade/Sarajevo/Zagreb. 100 Units.

The course uses an urban studies lens to explore the complex history, infrastructure and transformations of cities, mainly the capitals of today's Serbia, Bosnia and Hercegovina, and Croatia. There is a particular need to survey this region and feed the newfound interest in it, mainly because Yugoslav architecture embodied one of the great political experiments of the modern era. Drawing on anthropological theory and ethnography of the city, we consider processes of urban destruction and renewal, practices of branding spaces and identities, urban life as praxis, att and design movements, film, music, food, architectural historical media, guest speakers, and virtual tours. One of them is a tour through the 2018 show at MoMA "Toward a Concrete Utopia: Architecture in Yugoslavia 1948-1980" a project curated with the goal to find a place for Yugoslav Modernism in the architectural canon. Classes are held in English. No knowledge of South Slavic languages is required. Instructor(s): Nada Petkovic Terms Offered: Spring

Equivalent Course(s): BCSN 21300, ARCH 21300, REES 21300, BCSN 31303

# REES 31403. Advanced BCS: Language through Art and Architecture. 100 Units.

This course foregrounds different periods in Yugoslav and post-Yugoslav art and architecture. Situated between the capitalist West and the socialist East, Yugoslavia's architects responded to contradictory demands and influences, developing a postwar architecture both in line with and distinct from the design approaches seen elsewhere in Europe and beyond. Drawing on the country's own idiosyncrasies, diverse heritage and influences, the course surveys examples of architectural styles from classical to Baroque, through Art Nouveau and Modernism, all the way to full-blown Brutalism with its heft and material honesty. Given that Yugoslav architecture also expressed one of the great political experiments of the modern era, the course entertains many questions on related topics. While exploring major cities, their infrastructure, houses, buildings, monuments, churches and more, the course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in the target language and may be taken for pass/fail. The prerequisite is two years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Spring

Prerequisite(s): The course prerequisite is two years of formal study of the target language(s) or the consent of the instructor. Equivalent Course(s): REES 21400, BCSN 31403, BCSN 21400

# REES 32010. The Cinema of Miloš Forman. 100 Units.

The films of Miloš Forman (1932-2018) reflect the turbulence of the 1960s, '70s, '80s and '90s, and 2000s by focusing on the underdog, the pariah, the eccentric. The subject matter to which Forman was drawn translated into his cinema with a signature bittersweet tone, emphatic narrative cogency, and lush spontaneity. This course is an intensive study of Forman's work from his "New Wave" work in Czechoslovakia (Loves of a Blonde, The Fireman's Ball) to his U.S. studio successes (One Flew Over the Cuckoo's Nest, Amadeus), to his idiosyncratic and parabolic last films (Man on the Moon, Goya's Ghosts). Among other topics, the course contemplate the value of a dark sense of humor, cinematic gorgeousness, and artistic dissidence.

Instructor(s): Malynne Sternstein Terms Offered: Winter Equivalent Course(s): CMST 26603, REES 22010, FNDL 22010, CMST 36603

# REES 33115. Old Church Slavonic. 100 Units.

This course is an introduction to the language of the oldest Slavic texts. It begins with a brief historical overview of the relationship of Old Church Slavonic to Common Slavic and the other Slavic languages. This is followed by a short outline of Old Church Slavonic inflectional morphology. The remainder of the course is spent in the reading and grammatical analysis of original texts in Cyrillic or Cyrillic transcription of the original Glagolitic. Equivalent Course(s): REES 23115, MDVL 25100, LING 35100, LING 23115

#### REES 33154. XCAP: The Commune: The Making and Breaking of Intentional Communities. 100 Units.

Any class is an intentional community of sorts: people gathered together with a sense of collective purpose. But often the hopes of students are not met by the content or the methods in the classroom. Can we do better by making the process more intentional-clarifying and developing a collective sense of purpose at the outset? We will start by forming a collective plan on topics to be explored-anything from iconic American communities and Russian communes to memoir studies and economics. Possible projects include creating an intentional community in an off-campus location, designing a communal space, rewriting manifestos, or creating an excutar belief systems. We may also want to utilize alternative modes of learning, besides reading and discussing texts, such as roleplaying. A few students in the class have some experience in intentional communities, and we will welcome their input and suggestions

Instructor(s): William Nickell Terms Offered: Winter Equivalent Course(s): REES 23154, KNOW 29975

# REES 33158. Theories of Narrative. 100 Units.

Equivalent Course(s): CLAS 37009, CMLT 38300, CMLT 21300

#### REES 33812. Russia and the West, 18th-21st Centuries. 100 Units.

There are few problems as enduring and central to Russian history as the question of the West-Russia's most passionate romance and most bitter letdown. In this course we will read and think about Russia from the eighteenth to the twenty-first centuries through the lens of this obsession. We will study the products of Russian interactions with the West: constitutional projects, paintings, scientific and economic thought, the Westernizer-Slavophile controversy, and revolutions. We will consider the presence of European communities in Russia: German and British migrants who filled important niches in state service, trade, and scholarship; Italian sculptors and architects who designed some of Russia's most famous monuments; French expatriates in the wake of the French Revolution; Communist workers and intellectuals, refugees from Nazi Germany; and Western journalists who, in the late Soviet decades, trafficked illicit ideas, texts, and artworks. In the end, we will follow émigré Russians to Europe and the United States and return to present-day Russia to examine the anti-Western turn in its political and cultural discourse.

Instructor(s): E. Gilburd Terms Offered: Autumn

Equivalent Course(s): HIST 33812, HIST 23812, REES 23812

# REES 34110. The Soviet Empire. 100 Units.

What kind of empire was the Soviet Union? Focusing on the central idea of Eurasia, we will explore how discourses of gender, sexuality and ethnicity operated under the multinational empire. How did communism shape the state's regulation of the bodies of its citizens? How did genres from the realist novel to experimental film challenge a cohesive patriarchal, Russophone vision of Soviet Eurasia? We will examine how writers and filmmakers in the Caucasus and Central Asia answered Soviet Orientalist imaginaries, working through an interdisciplinary archive drawing literature and film from the Soviet colonial 'periphery' in the Caucasus and Central Asia as well as writings about the hybrid conception of Eurasia across linguistics, anthropology, and geography.

Instructor(s): Leah Feldman Terms Offered: Autumn

Equivalent Course(s): CRES 24111, CMLT 34111, CRES 34111, CMLT 24111, NEHC 34110, REES 24110, NEHC 24110

# REES 35001. Introduction to the Musical Folklore of Central Asia. 100 Units.

This course explores the musical traditions of the peoples of Central Asia, both in terms of historical development and cultural significance. Topics include the music of the epic tradition, the use of music for healing, instrumental genres, and Central Asian folk and classical traditions. Basic field methods for ethnomusicology are also covered. Extensive use is made of recordings of musical performances and of live performances in the area.

Instructor(s): Kagan Arik Terms Offered: Spring

Equivalent Course(s): ANTH 25905, REES 25001, MUSI 23503, MUSI 33503, NEHC 30765, NEHC 20765

# REES 35025. Gender and Translation. 100 Units.

The course will consider translation -- both theory and practice -- in relation to queer studies and gender and women's studies. Authors will include Naomi Seidman, Monique Balbuena, Yevgeniy Fiks, Raquel Salas Rivera, Kate Briggs, and others. For the final essay, students may write a research paper or translation project. Instructor(s): Anna Elena Torres Terms Offered: Winter

Equivalent Course(s): GNSE 25025, GNSE 35025, CMLT 35025, CMLT 25025, REES 25025

# REES 35603. Media and Power in the Age of Putin and Trump. 100 Units.

Over the past 200 years, various political and cultural regimes of Russia have systematically exploited the gap between experience and representation to create their own mediated worlds--from the tight censorship of the imperial and Soviet periods to the propaganda of the Soviet period and the recent use of media simulacra for strategic geopolitical advantage. During this same period state control of media has been used to seclude Russia from the advancement of liberalism, market economics, individual rights, modernist art, Freud, Existentialism, and, more recently, Western discourses of inclusion, sustainability, and identity. Examining this history, it is sometimes difficult to discern whether the architects of Russian culture have been hopelessly backward or shrewd phenomenologists, keenly aware of the relativity of experience and of their ability to shape it. This course will explore the worlds that these practices produce, with an emphasis on Russia's recent confrontations with Western culture and power, and including various practices of subversion of media control, such as illegal printing and circulation. Texts for the course will draw from print, sound, and visual media, and fields of analysis will include aesthetics, cultural history, and media theory.

Instructor(s): W. Nickell Terms Offered: Autumn Equivalent Course(s): SIGN 26029, REES 25603

#### REES 36019. Symbolism and Cinema. 100 Units.

In his 1896 essay on cinema, Russian writer Maxim Gorky described the new medium to "madness or symbolism." The connection between cinema and symbolism was not surprising insofar as symbolism was a dominant aesthetic paradigm throughout Europe at the time. However it does suggest (perhaps surprisingly) that from the very beginning cinema was seen as a means of visualizing the non-rational, uncanny and even invisible. This course examines the relationship between symbolism and cinema with particular attention to French and Russian writings and films. Examining how symbolist aesthetics became applied to the cinematic medium, we will pay particular attention the resources it provided for conceptualizing the uncanny and the mystical. We will question whether there exists a distinct symbolist tradition in film history and how it relates to notions of poetic or experimental cinema. Films will represent a broad cross-section of European (and some American) cinema, from Jean Epstein to Sergei Eisenstein and Alexander Dovzhenko, and from Stan Brakhage to Andrei Tarkovsky.

Instructor(s): R. Bird

Equivalent Course(s): CMST 25514, CMST 35514, REES 26019

#### REES 36067. The Aesthetics of Socialist Realism. 100 Units.

Socialist Realism was declared the official mode of Soviet aesthetic culture in 1934. Though it has been dismissed within the totalitarian model as propaganda or kitsch, this seminar will approach it from the perspective of its aesthetics. By this we mean not only its visual or literary styles, but also its sensory or haptic address to its audiences. Our premise is that the aesthetic system of Socialist Realism was not simply derivative or regressive, but developed novel techniques of transmission and communication; marked by a constant theoretical reflection on artistic practice, Socialist Realism redefined the relationship between artistic and other forms of knowledge, such as science. Operating in an economy of art production and consumption diametrically opposed to the Western art market, Socialist Realism challenged the basic assumptions of Western artistic discourse, including the concept of the avant-garde. It might even be said to offer an alternate model of revolutionary cultural practice, involving the chronicling and producing of a non-capitalist form of modernity. The seminar will focus on Soviet visual art, cinema and fiction during the crucial period of the 1930s under Stalin (with readings available in translation), but we welcome students with relevant research interests that extend beyond these parameters. Conducted jointly by professors Robert Bird (Slavic and Cinemaand Media Studies, University of Chicago) and Christina Kiaer, Art History, Northwestern University, course meetings will be divided evenly between the campuses of Northwestern Univ, Socialist Realism was declared the official mode of Soviet aesthetic culture in 1934. Though it has been dismissed within the totalitarian model as propaganda or kitsch, this seminar will approach it from the perspective of its aesthetics. By this we mean not only its visual or literary styles, but also its sensory or haptic address to its audiences. Our premise is that the aesthetic system of Socialist Realism was not simply derivative or regressive, but developed novel techniques of transmission and communication; marked by a constant theoretical reflection on artistic practice, Socialist Realism redefined the relationship between artistic and other forms of knowledge, such as science. Operating in an economy of art production and consumption diametrically opposed to the Western art market, Socialist Realism challenged the basic assumptions of Western artistic discourse, including the concept of the avant-garde. It might even be said to offer an alternate model of revolutionary cultural practice, involving the chronicling and producing of a non-capitalist form of modernity. The seminar will focus on Soviet visual art, cinema and fiction during the crucial period of the 1930s under Stalin (with readings available in translation), but we welcome students with relevant research interests that extend beyond these parameters. Conducted jointly by professors Robert Bird (Slavic and Cinemaand Media Studies, University of Chicago) and Christina Kiaer, Art History, Northwestern Univ

Instructor(s): Robert Bird Terms Offered: TBD

Equivalent Course(s): CMST 44510, ARTH 44502, ARTH 44502, CMST 44510

#### REES 36068. The Underground: Alienation, Mobilization, Resistance. 100 Units.

The ancient and multivalent image of the underground has crystallized over the last two centuries to denote sites of disaffection from-and strategies of resistance to-dominant social, political and cultural systems. We will trace the development of this metaphor from the Underground Railroad in the mid-1800s and the French Resistance during World War II to the Weather Underground in the 1960s-1970s, while also considering it as a literary and artistic concept, from Fyodor Dostoevsky's Notes from the Underground and Ellison's Invisible Man to Chris Marker's film La Jetée and Andrei Tarkovsky's Stalker. Alongside with such literary and cinematic tales, drawing theoretical guidance from refuseniks from Henry David Thoreau to Guy Debord, this course investigates how countercultural spaces. We ask about the relation between social deviance (the failure to meet social norms, whether willingly or unwittingly) and political resistance, especially in the conditions of late capitalism and neo-colonialism, when countercultural literature, film and music (rock, punk, hip-hop, DIY aesthetics etc.) get absorbed into-and coopted by-the hegemonic socio-economic system. In closing we will also consider contemporary forms of dissidence-from Pussy Riot to Black Lives Matter-that rely both on the vulnerability of individual bodies and global communication networks.

Instructor(s): R. Bird Terms Offered: Spring

Equivalent Course(s): CMST 34568, SIGN 26012, CMST 24568, REES 26068

#### REES 36070. Revolution. 100 Units.

Revolution primarily denotes radical political change, but this definition is both too narrow and too broad. Too broad, because since the late eighteenth century revolution has been associated specifically with an emancipatory politics, from American democracy to Soviet communism. Too narrow, because revolutionary political change is always accompanied by change in other spheres, from philosophy to everyday life. We investigate the history of revolution from 1776 to the present, with a particular focus on the Bolshevik revolution of 1917, in order to ascertain how social revolutions have been constituted, conducted, and enshrined in political and cultural institutions. We also ask what the conditions and prospects of revolution are today. Readings will be drawn from a variety of fields, from philosophy to social history. Most readings will be primary documents, from Rousseau and Marx to Bill Ayers, but will also include major statements in the historiography of revolution.

Instructor(s): Robert Bird Terms Offered: TBD

Equivalent Course(s): HIST 23707, HIST 33707, REES 26064

# REES 36077. Russian Modernist Theater. 100 Units.

Russian Modernist Theater explores the theory and practice of the new stage forms developed in Russia from 1900 to 1940. The course begins with the Stanislavsky school, and then delves deeply into the more experimental work of Meyerhold and his generation and the first attempts to create a revolutionary Soviet theater in the 1920s. The course will include a production, which will be scaled to the number and ambitions of the enrolled students. Course requirements can be met through the writing of a conventional paper, or through the production, via set or costume design, dramaturgy, performance, or staging. Each of these production assignments will require a write-up relating the work to the course materials and discussions.

Instructor(s): William Nickell Terms Offered: TBD Equivalent Course(s): REES 26077

# REES 36080. Lost Histories of the Left. 100 Units.

When most Americans think about "the left," Marxism, Soviet state socialism, or European social democracy spring to mind. This class will explore alternative-but now largely forgotten-blueprints for revolutionizing the political and social order that emerged in the nineteenth century. We will pay special attention to utopian socialism, early anticolonial movements, the Jewish Labor Bund, and anarchism. Examining the intellectual underpinnings of these movements, their influence on the modern world, and the factors that led to their demise, we will also consider what lessons they can teach to those committed to realizing a better future today.

Instructor(s): F. Hillis Terms Offered: Winter

Equivalent Course(s): REES 26080, HIST 29426, JWSC 29626, HIST 39426

# REES 36661. The Rise of the Global New Right. 100 Units.

This course traces the intellectual genealogies of the rise of a Global New Right in relation to the contexts of late capitalist neoliberalism, the fall of the Soviet Union, as well as the rise of social media. The course will explore the intertwining political and intellectual histories of the Russian Eurasianist movement, Hungarian Jobbik, the American Traditional Workers Party, the French GRECE, Greek Golden Dawn, and others through their published essays, blogs, vlogs and social media. Perhaps most importantly, the course asks: can we use f-word (fascism) to describe this problem? In order to pose this question we will explore the aesthetic concerns of the New Right in relation to postmodern theory, and the affective politics of nationalism. This course thus frames the rise of a global new right interdisciplinary and comparatively as a historical, geopolitical and aesthetic problem.

Instructor(s): Leah Feldman Terms Offered: Autumn

Equivalent Course(s): REES 26660, ENGL 36661, CMLT 26660, CRES 26660, ENGL 26660, CMLT 36660, SIGN 26050, CRES 36660

# REES 37019. Holocaust Object. 100 Units.

In this course, we explore various ontological and representational modes of the Holocaust material object world as it was represented during World War II. Then, we interrogate the post-Holocaust artifacts and material remnants, as they are displayed, curated, controlled, and narrated in the memorial sites and museums of former ghettos and extermination and concentration camps. These sites which-once the locations of genocide-are now places of remembrance, the (post)human, and material remnants also serve educational purposes. Therefore, we study the ways in which this material world, ranging from infrastructure to detritus, has been subjected to two, often conflicting, tasks of representation and preservation, which we view through a prism of authenticity. In order to study representation, we critically engage a textual and visual reading of museum narrations and fiction writings; to tackle the demands of preservation, we apply a neo-materialist approach. Of special interest are survivors' testimonies as appended to the artifacts they donated. The course will also equip you with salient critical tools for future creative research in Holocaust studies.

Instructor(s): Bozena Shallcross Terms Offered: Autumn

Equivalent Course(s): HIST 23413, ANTH 23910, JWSC 29500, REES 27019, HIST 33413, ANTH 35035

## REES 37021. The Rise and Demise of Polish Chicago: Reading Polonia's Material Culture. 100 Units.

Chicago claims to have the largest Polish and Polish-American population in the US and yet the city's distinctly Polish neighborhoods are now only history as their population has dispersed or moved to the suburbs. This course explores the diminishing presence of Poles against the lasting input of the material culture which they introduced to the urban spaces of Chicago. The course is framed by the fundamentals of thing discourse and employs the mediums of sculpture, fashion, photography, architecture and topography of the Polish community in Chicago through several field trips. The course's main goal is to map the evolution of the former Polish neighborhoods which often concluded with the erasure of their distinct ethno-space. In order to grasp the status of such changes, students take several field trips to the former Polish neighborhoods and visit their existing architectural landmarks and cultural institutions. Towards the end of the course, students conduct several interviews with Polish Chicagoans from the postwar and Solidarity immigrations. The course concludes with a capstone project for which students will make a virtual collection of artifacts designed as a curio cabinet filled with objects they found, created, and purchased during their research and field trips.

Instructor(s): Bo#ena Shallcross Terms Offered: Winter

Prerequisite(s): Students must attend several panels of their choice during the conference entitled, "What They Brought / What They Changed: Material Culture and Polish Chicago," on December 2-4, 2020.

Equivalent Course(s): ARCH 27021, REES 27021

## REES 37026. Kieslowski: The Decalogue. 100 Units.

In this class, we study the monumental series "The Decalogue" by one of the most influential filmmakers from Poland, Krzysztof Kie#lowski. Without mechanically relating the films to the Ten Commandments, Kie#lowski explores the relevance of the biblical moral rules to the state of modern man forced to make ethical choices. Each part of the series contests the absolutism of moral axioms through narrative twists and reversals in a wide, universalized sphere. An analysis of the films will be accompanied by readings from Kie#lowski's own writings and interviews, including criticism by Zizek, Insdorf, and others.

Instructor(s): Bozena Shallcross Terms Offered: Autumn

Equivalent Course(s): CMST 36705, REES 27026, CMST 26705, FNDL 24003

# REES 39009. Balkan Folklore. 100 Units.

Vampires, fire-breathing dragons, vengeful mountain nymphs. 7/8 and other uneven dance beats, heart-rending laments, and a living epic tradition. This course is an overview of Balkan folklore from historical, political, and anthropological perspectives. We seek to understand folk tradition as a dynamic process and consider the function of different folklore genres in the imagining and maintenance of community and the socialization of the individual. We also experience this living tradition firsthand through visits of a Chicago-based folk dance ensemble, "Balkan Dance."

Instructor(s): A. Ilieva Terms Offered: Winter

Equivalent Course(s): ANTH 35908, ANTH 25908, CMLT 33301, NEHC 20568, NEHC 30568, REES 29009, CMLT 23301

# REES 39010. Strangers to Ourselves: Emigre Literature and Film from Russia and Southeast Europe. 100 Units.

Being alienated from myself, as painful as that may be, provides me with that exquisite distance within which perverse pleasure begins, as well as the possibility of my imagining and thinking," writes Julia Kristeva in "Strangers to Ourselves," the book from which this course takes its title. The authors whose works we are going to examine often alternate between nostalgia and the exhilaration of being set free into the breathless possibilities of new lives. Leaving home does not simply mean movement in space. Separated from the sensory boundaries that defined their old selves, immigrants inhabit a warped, fragmentary, disjointed time. Immigrant writers struggle for breath-speech, language, voice, the very stuff of their craft resounds somewhere else. Join us as we explore the pain, the struggle, the failure, and the triumph of emigration and exile. Vladimir Nabokov, Joseph Brodsky, Marina Tsvetaeva, Nina Berberova, Julia Kristeva, Alexander Hemon, Dubravka Ugreši#, Norman Manea, Miroslav Penkov, Ilija Trojanow, Tea Obreht.

Instructor(s): A. Ilieva Terms Offered: Spring

Equivalent Course(s): CMLT 26912, CMLT 36912, REES 29010

## REES 39013. The Burden of History: The Nation and Its Lost Paradise. 100 Units.

What makes it possible for the imagined communities called nations to command the emotional attachments that they do? This course considers some possible answers to Benedict Anderson's question on the basis of material from the Balkans. We will examine the transformation of the scenario of paradise, loss, and redemption into a template for a national identity narrative through which South East European nations retell their Ottoman past. With the help of Žižek's theory of the subject as constituted by trauma and Kant's notion of the sublime, we will contemplate the national fixation on the trauma of loss and the dynamic between victimhood and sublimity.

Instructor(s): A. Ilieva Terms Offered: Autumn

Equivalent Course(s): CMLT 33401, REES 29013, NEHC 30573, NEHC 20573, CMLT 23401, HIST 24005, HIST 34005

# REES 39018. Imaginary Worlds: The Fantastic and Magic Realism in Russia and Southeastern Europe. 100 Units.

In this course, we will ask what constitutes the fantastic and magic realism as literary genres while reading some of the most interesting writings to have come out of Russia and Southeastern Europe. While considering the stylistic and narrative specificities of this narrative mode, we also think about its political functions -from subversive to escapist, to supportive of a nationalist imaginary-in different contexts and at different historic moments in the two regions. Instructor(s): Angelina Ilieva Terms Offered: Spring

Equivalent Course(s): CMLT 27701, CMLT 37701, REES 29018

# REES 39021. The Shadows of Living Things: The Writings of Mikhail Bulgakov. 100 Units.

What would your good do if evil did not exist, and what would the earth look like if all the shadows disappeared? After all, shadows are cast by things and people.... Do you want to strip the earth of all the trees and living things just because of your fantasy of enjoying naked light?" asks the Devil. Mikhail Bulgakov worked on his novel The Master and Margarita throughout most of his writing career, in Stalin's Moscow. Bulgakov destroyed his manuscript, re-created it from memory, and reworked it feverishly even as his body was failing him in his battle with death. The result is an intense contemplation on the nature of good and evil, on the role of art and the ethical duty of the artist, but also a dazzling world of magic, witches, and romantic love, and an irresistible seduction into the comedic. Laughter, as shadow and light, as the subversive weapon but also as power's whip, grounds human relation to both good and evil. Brief excursions to other texts that help us better understand Master and Margarita.

Instructor(s): A. Ilieva Terms Offered: Spring

Equivalent Course(s): REES 29021, FNDL 29020

# REES 39023. Returning the Gaze: The West and the Rest. 100 Units.

Aware of being observed. And judged. Inferior... Abject... Angry... Proud... This course provides insight into identity dynamics between the "West," as the center of economic power and self-proclaimed normative humanity, and the "Rest," as the poor, backward, volatile periphery. We investigate the relationship between South East European self-representations and the imagined Western gaze. Inherent in the act of looking at oneself through the eyes of another is the privileging of that other's standard. We will contemplate the responses to this existential position of identifying symbolically with a normative site outside of oneself-self-consciousness, defiance, arrogance, self-exoticization-and consider how these responses have been incorporated in the texture of the national, gender, and social identities in the region. Orhan Pamuk, Ivo Andri#, Nikos Kazantzakis, Aleko Konstantinov, Emir Kusturica, Milcho Manchevski.

Instructor(s): Angelina Ilieva Terms Offered: Winter

Equivalent Course(s): CMLT 39023, NEHC 29023, REES 29023, HIST 23609, NEHC 39023, CMLT 29023, HIST 33609

## REES 39024. States of Surveillance. 100 Units.

What does it feel to be watched and listened to all the time? Literary and cinematic works give us a glimpse into the experience of living under surveillance and explore the human effects of surveillance - the fraying of intimacy, fracturing sense of self, testing the limits of what it means to be human. Works from the former Soviet Union (Solzhenitsyn, Abram Tertz, Andrey Zvyagintsev), former Yugoslavia (Ivo Andri#, Danilo Kiš, Dušan Kova#evi#), Romania (Norman Manea, Cristian Mungiu), Bulgaria (Valeri Petrov), and Albania (Ismail Kadare).

Instructor(s): Angelina Ilieva Terms Offered: Spring

Equivalent Course(s): CMLT 39024, REES 29024, CMLT 29024

## REES 39700. Reading/Research. 100 Units.

This is a specially designed course not normally offered as part of the curriculum that is arranged between a student and a faculty member.

Instructor(s): TBA. Terms Offered: Autumn, Spring, Winter

Note(s): Requires the consent of the instructor.

# REES 39800. Reading/Research: Czech. 100 Units.

# REES 39815. Russian Anarchists, Revolutionary Samurai: Introduction to Russian-Japanese Intellectual Relations. 100 Units.

This course introduces a current of Russian-Japanese exchange and cross-fertilization of ideas running from the late nineteenth century to now. Our focus will be on the historical role that Russia came to play in anarchist movement in Japan. We will read such revolutionary intellectuals as Lev Mechnikov, Peter Kropotkin, and Lev Tolstoy; compare the visions of civilizational progress of the state modernizer Fukuzawa Yukichi and Japanese anarchists K#toku Sh#sui and #sugi Sakae; and study the post-WW II continuation of the anarchist tradition in the films of Kurosawa Akira, music of Takemitsu Toru, and writings of #e Kenzabur#.

Instructor(s): Olga Solovieva Terms Offered: Spring

Equivalent Course(s): CMLT 39710, EALC 29710, EALC 39710, CMLT 29710, REES 29815

## REES 39912. Special Topics in Advanced Russian. 100 Units.

Must complete Advanced Russian through Media or equivalent, or obtain consent of instructor. Class meets for 2 hours each week. We'll work with several topics, all of them are relevant to the general theme of "Geography and Worldview: Russian Perspective". There will be maps, reading materials, several documentaries, clips from TV programs and other media, and feature films. Class meetings will be a combination of group discussions, short presentations, and lectures. Final - one term paper at the end (in English) based on Russian materials.

Instructor(s): Valentina Pichugin Terms Offered: Spring

Equivalent Course(s): RUSS 29912, RUSS 39912, REES 29912

## REES 39913. Special Topics in Bosnian/Croatian/Serbian I. 100 Units.

The course is designed to meet the specific needs of advanced learners of Bosnian/Croatian/Serbian, including heritage and native speakers, and to foster cross-cultural experiences through interdisciplinary content. The curriculum covers a wide range of topics relative to the students' field of study, research and personal interests. Although grounded in the field of philology, it expands students' knowledge in other disciplines of social and behavioral sciences such as history, anthropology, global studies, economics, political science, sociology, and the like. Attention is given to the ability to paraphrase scholarly arguments, formulate research hypotheses, and present research in the target language. The course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in BCS. The prerequisite is three years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Autumn Equivalent Course(s): REES 29913, BCSN 39910, BCSN 29910

## REES 39914. Special Topics in Bosnian/Croatian/Serbian II. 100 Units.

The course is designed to meet the specific needs of advanced learners of B/C/S, including heritage and native speakers, and to foster cross-cultural experiences through its interdisciplinary content. The curriculum covers a wide range of topics relative to the students' field of study, research and personal interests. Although grounded in the field of philology, it expands students' knowledge in other disciplines of social and behavioral sciences such as history, anthropology, global studies, economics, political science, sociology, and the like. Attention is given to the ability to paraphrase scholarly arguments, formulate research hypotheses, and present one's research in the target language. The course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in B/C/S; the prerequisite is three years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Winter

Equivalent Course(s): BCSN 39911, BCSN 29911, REES 29914

## REES 39915. Special Topics in Bosnian/Croatian/Serbian III. 100 Units.

The course is designed to meet the specific needs of advanced learners of B/C/S, including heritage and native speakers, and to foster cross-cultural experiences through its interdisciplinary content. The curriculum covers a wide range of topics relative to the students' field of study, research and personal interests. Although grounded in the field of philology, it expands students' knowledge in other disciplines of social and behavioral sciences such as history, anthropology, global studies, economics, political science, sociology, and the like. Attention is given to the ability to paraphrase scholarly arguments, formulate research hypotheses, and present one's research in the target language. The course delves into advanced grammatical topics with the goal of increasing proficiency in both aural and reading comprehension, in addition to honing writing and speaking styles. Classes are conducted in B/C/S; the prerequisite is three years of formal study of the target language or the equivalent.

Instructor(s): Nada Petkovic Terms Offered: Spring

Equivalent Course(s): REES 29915, BCSN 29912, BCSN 39912

# REES 42101. Collapse: The End of the Soviet Empire. 100 Units.

This team-taught course invites students to reassess critically the meaning of the Soviet collapse on the occasion of its thirtieth anniversary. Topics to be examined include the neoliberal "shock therapy" economic reforms that ushered in a state of wild capitalism, the dissolution of the Soviet empire and rise of rise of new right nationalisms, and the formation of alternative artistic movements that resisted the economic and political devastation that accompanied the transition. The course pedagogy employs economic, political, historical, and aesthetic analysis to develop a robust understanding across a variety of disciplines and methodological approaches.

Instructor(s): Leah Feldman and Faith Hillis Terms Offered: Autumn

Prerequisite(s): Consent required for undergraduate enrollment; email Professors Feldman and Hillis a paragraph long description about what you bring and what you hope to get out of this seminar.

Equivalent Course(s): CMLT 42101, CDIN 42101, HIST 43802

# REES 43902. Colloquium: Stalinism. 100 Units.

We will explore Stalin as a personality and Stalinism as a political order, an economy, a cultural system, a set of beliefs and rituals, and a way of life. Topics include the dictator, his entourage, and his cult; decision making and the new elite; industrialization, collectivization, and the economy of shortages; revolution and conservatism; nationalism, internationalism, and ethnic cleansing; political terror, mass murder, and the Gulag; communal apartments, survival strategies, and intimate life; media and the socialist-realist dreamworld; legacies and historical consciousness. Readings include classics in the field and newest hits as well as works of fiction.

Instructor(s): E. Gilburd Terms Offered: Spring

Prerequisite(s): Advanced undergraduates with consent of instructor and prior coursework on 20th-C Russia or Russian Civ. Equivalent Course(s): HIST 43902

## REES 43903. The Art of Healing: Medical Aesthetics in Russia & the U.S. 100 Units.

What makes a medical treatment look like it will work? What makes us feel that we are receiving good care, or that we can be cured? How are these responses shaped by the rhetorical practices of doctors, researchers, and pharmaceutical companies, by the physical appearance of hospitals, offices, and instruments, or by smells and sounds? Why does the color of a pill influence its effectiveness, and how can placebos achieve what less inert medication cannot? How do predictions of degradation? Is the doctor seen primarily as a caregiver or a scientist, and how does this affect treatment outcomes? What is the aesthetic experience of being "sick"? In this course we will consider these problems from the vantage points of a medical professional and a cultural historian, focusing on material from the United States and Soviet/post-Soviet Russia. Our methodology will combine techniques of aesthetic analysis with those of medical anthropology, history and practice. Equivalent Course(s): CDIN 43903, HIST 45100

# REES 44001. Colloquium: Ending Communism. 100 Units.

This course focuses on the demise of one of the most enduring, ambitious, appealing, transformative, and destructive political ideologies. We will consider the collapse of communism as a religion, an aesthetic, and a way of life, an economic system and a material culture, a political structure and an international order. We will also discuss communism's afterlives in biographies and memoirs (including those of scholars). Topics include reforms and revolutions, political and cultural dissent, generations and languages, secrecy and publicity, travel and immobility, competing religions and rival ideologies, the Cold War and détentes, privileges and shortages, apartment blocks and palaces of culture, the Gorky Park, the Memento Park, and other Luna Parks. Our readings will range across Europe, focusing primarily on the Soviet Union and Eastern Europe in the last forty years of the twentieth century.

Instructor(s): E. Gilburd Terms Offered: Autumn

Prerequisite(s): Upper-level undergraduates with consent of instructor.

Equivalent Course(s): HIST 44001

## REES 45005. History of International Cinema II: Sound Era to 1960. 100 Units.

The center of this course is film style, from the classical scene breakdown to the introduction of deep focus, stylistic experimentation, and technical innovation (sound, wide screen, location shooting). The development of a film culture is also discussed. Texts include Thompson and Bordwell's Film History: An Introduction; and works by Bazin, Belton, Sitney, and Godard. Screenings include films by Hitchcock, Welles, Rossellini, Bresson, Ozu, Antonioni, and Renoir. Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): Prior or concurrent registration in CMST 10100 required. Required of students majoring or minoring in Cinema and Media Studies.

Note(s): CMST 28500/48500 strongly recommended

Equivalent Course(s): MAAD 18600, CMLT 32500, CMLT 22500, ARTH 28600, ARTV 20003, ENGL 48900, ENGL 29600, MAPH 33700, CMST 28600, CMST 48600, ARTH 38600, REES 25005

## REES 47000. Time and Memory. 100 Units.

At the beginning of the 20th century moderns and modernists announced their break with the past and launched various artistic, philosophical, political, and social experiments that claimed to construct society and the individual anew. The machine, speed, technology, and the future were the watchwords of Futurists and other modernist groups. Revolutionary transformation on all fronts was the way forward. In the same period advances in science and technology radically changed the horizon of possibility. Yet other important artists and thinkers offered the contrasting view that the past remains alive in the present-both in individuals and in human cultures. Memory was key to the future. This seminar focuses on the second tendency by examining the work of three theorists-Henri Bergson, Walter Benjamin, Victor Shklovsky-and three literary authors-Victor Shklovsky, Virginia Woolf, and Osip Mandelshtam.

Instructor(s): Harriet Murav Terms Offered: Spring



# Department of South Asian Languages and Civilizations

Chair

Whitney Cox

Professors

- Muzaffar Alam Director of Graduate Studies
- Dipesh Chakrabarty
- Ulrike Stark
- Gary Tubb

Associate Professors

- Whitney Cox
- Thibaut d'Hubert
- Sascha Ebeling
- Rochona Majumdar

Assistant Professors

- Andrew Ollett
- Tyler Williams Director of Undergraduate Studies

Visiting Professors

E. Annamalai

Associated Faculty

- Daniel A. Arnold (Divinity School)
- Christian K. Wedemeyer (Divinity School)

Instructional Professors

- Mandira Bhaduri
- Jason Grunebaum
- Sujata Mahajan
- Timsal Masud
- Karma T. Ngodup

Emeritus Faculty

- Wendy Doniger
- Ronald B. Inden
- Colin P. Masica
- C. M. Naim
- Clinton B.Seely
- Norman H. Zide

## The Department

The Department of South Asian Languages and Civilizations is a multidisciplinary department comprised of faculty with expertise in the languages, literatures, histories, philosophies, and religions of South Asia. The examination of South Asian texts, broadly defined, is the guiding principle of our Ph.D. degree, and the dissertation itself. This involves acquaintance with a wide range of South Asian texts and their historical contexts, and theoretical reflection on the conditions of understanding and interpreting these texts. These goals are met through departmental seminars and advanced language courses, which lead up to the dissertation project.

The Department admits applications only for the Ph.D. degree, although graduate students in the doctoral program may receive an M.A. degree in the course of their work toward the Ph.D. Students admitted to the doctoral program are awarded a six-year fellowship package that includes full tuition, academic year stipends, stipends for some summers, and medical insurance. Experience in teaching positions is a required part of the program, and students are given opportunities to teach at several levels in both language courses and other courses.

Students seeking a terminal master's degree should apply to the Master of Arts Program in the Humanities (MAPH, as either a three-quarter program of interdisciplinary study or - as is often more attractive to students interested in South Asia -

in the MAPH two-year Language Intensive Option). MAPH students often take classes with students in the Ph.D. programs. Further details about the MAPH program are available at http://maph.uchicago.edu/

# The Degree of Doctor of Philosophy

Doctoral students in South Asian Languages and Civilizations must complete a minimum of 18 courses, which will include the required language courses, the three required departmental seminars, and other courses relevant to the student's chosen specialty. Under some conditions, students may receive credit for earlier course work done in a higher degree program at another university. For details of the course requirements, see the Department webpages.

Before beginning work on the doctoral dissertation, Ph.D. students must also fulfill the following requirements:

- Meet general language requirements
- Complete the three required departmental seminars
- Receive a passing grade on the two qualifying papers
- · Formulate two reading lists and pass an oral examination based on them
- Write and defend a dissertation proposal

The languages in which the department offers concentrations are Bangla, Hindi, Indo-Persian, Marathi, Sanskrit, Tamil, Tibetan, and Urdu. Persian and Arabic are also available through the Department of Near Eastern Languages and Civilizations. Students must meet specified standards in three languages:

- The South Asian language of concentration (the major language)
- A second South Asian language relevant to the student's program of study (the minor language)
- A third language of scholarship (e.g. French, German, Hindi, Japanese)

Requirements for proficiency levels and coursework are explained in detail on the Department webpages.

Competence in South Asian languages and civilizations is demonstrated as much by close familiarity with South Asian texts as by a broad knowledge of the plurality of South Asian practices and traditions. To this end, the Ph.D. program includes three required departmental seminars, which are offered over a two-year cycle and must be completed in the first two years. The seminars include two on research themes and one on South Asia as a unit of study.

In each of the first two years of their programs, students are required to submit a qualifying paper on a subject agreed upon with a faculty member. The papers are designed to demonstrate, in addition to general scholarly competence, the ability to deal with secondary sources in the first year, and with primary sources in the second year.

Following the completion of the two qualifying papers, students compose, under the supervision of faculty members, two reading lists, and prepare for an oral examination on each of the lists, one of which one will deal with a major area of study and the other with a substantially different area.

Upon successful completion of the oral examinations, students write and defend a detailed dissertation proposal, prepared under the supervision of the chair of the proposed dissertation committee. Dissertation proposals are defended orally before the entire department.

The completed dissertation is defended before the dissertation committee, which ordinarily consists of three faculty members, with a member of the SALC faculty as chair, in an oral defense presided over by the departmental chair. At the discretion of the dissertation chairperson, a fourth member may be added to the dissertation committee. Further details about the composition of the dissertation committee are available on the departmental website.

Time to candidacy for the Ph.D. degree, marked by the successful defense of the dissertation proposal, is expected to be within four years. The PhD degree in SALC should be completed within eight years.

## Application and Admission

Completed applications for admission and aid, along with all supporting materials, are due in mid-December for the academic year that starts in the following autumn.

Students whose first language is not English must submit scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Information about these tests may be obtained from the Educational Testing Service, Princeton, NJ 08540.

The application process for admission and financial aid for all graduate programs in Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/prospective/ #admissions.

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

# Further Information

The SALC Department webpages at http://salc.uchicago.edu (http://salc.uchicago.edu/) provide detailed information on language programs, faculty specialties, degree requirements, teaching opportunities, sources of funding, fellowships for language study and for pre-dissertation research and overseas dissertation research, and many other resources.

Malayaman Courses

Telegu Courses **TLGU 30300. Third-Year Telugu III. 100 Units.** Instructor(s): V. Narayana Rao Prerequisite(s): TLGU 20300 or comparable level of language skills

TLGU 30600. Classical Telugu III. 100 Units.

Instructor(s): V. Narayana Rao Prerequisite(s): At least two years of Sanskrit and knowledge of Telugu script

Panjabi Courses

Bangla Courses

#### BANG 30100-30200-30300. Third-Year Bangla (Bengali) I-II-III.

When joining this course the student is expected to demonstrate the ability to narrate in all time frames of the language. The student should be able to provide a simple though articulate discourse on familiar topics and subjects directly related to the his/her interests. He/She will learn to provide a full account of events and to use appropriately complex sentences in Bangla. We will also focus on some aspects of the technical language pertaining to various domains. The student will be invited to discuss orally on written material studied in class and at home, and he/she will have to produce two to three pages long essays on a given topic. Systematic introductions to a variety of registers and literary idioms (19<sup>th</sup> century Sadhu Bhasha, dialects, etc.) will also be provided. By the end of the spring quarter the student will have the necessary tools to expand significantly his/her abilities in order to reach the superior level.

# BANG 30100. Third-Year Bangla (Bengali) I. 100 Units.

When joining this course the student is expected to demonstrate the ability to narrate in all time frames of the language. The student should be able to provide a simple though articulate discourse on familiar topics and subjects directly related to the his/her interests. He/She will learn to provide a full account of events and to use appropriately complex sentences in Bangla. We will also focus on some aspects of the technical language pertaining to various domains. The student will be invited to discuss orally on written material studied in class and at home, and he/she will have to produce two to three pages long essays on a given topic. Systematic introductions to a variety of registers and literary idioms (19th century Sadhu Bhasha, dialects, etc.) will also be provided. By the end of the spring quarter the student will have the necessary tools to expand significantly his/her abilities in order to reach the superior level. Instructor(s): M. Bhaduri Terms Offered: Autumn

Prerequisite(s): Second year Bangla or comparable level of language skills

## BANG 30200. Third-Year Bangla (Bengali) II. 100 Units.

When joining this course the student is expected to demonstrate the ability to narrate in all time frames of the language. The student should be able to provide a simple though articulate discourse on familiar topics and subjects directly related to the his/her interests. He/She will learn to provide a full account of events and to use appropriately complex sentences in Bangla. We will also focus on some aspects of the technical language pertaining to various domains. The student will be invited to discuss orally on written material studied in class and at home, and he/she will have to produce two to three pages long essays on a given topic. Systematic introductions to a variety of registers and literary idioms (19th century Sadhu Bhasha, dialects, etc.) will also be provided. By the end of the spring quarter the student will have the necessary tools to expand significantly his/her abilities in order to reach the superior level. Instructor(s): M. Bhaduri Terms Offered: Winter

Prerequisite(s): BANG 30100 or comparable level of language skills

#### BANG 30300. Third-Year Bangla (Bengali) III. 100 Units.

When joining this course the student is expected to demonstrate the ability to narrate in all time frames of the language. The student should be able to provide a simple though articulate discourse on familiar topics and subjects directly related to the his/her interests. He/She will learn to provide a full account of events and to use appropriately complex sentences in Bangla. We will also focus on some aspects of the technical language pertaining to various domains. The student will be invited to discuss orally on written material studied in class and at home, and he/she will have to produce two to three pages long essays on a given topic. Systematic introductions to a variety of registers and literary idioms (19th century Sadhu Bhasha, dialects, etc.) will also be provided. By the end of the spring quarter the student will have the necessary tools to expand significantly his/her abilities in order to reach the superior level. Instructor(s): M. Bhaduri Terms Offered: Spring

Prerequisite(s): BANG 30200 or comparable level of language skills

## BANG 39910. Advanced Academic Bangla. 100 Units.

This course develops Advanced Bangla language skills to prepare students for doing research both in India and Bangladesh. Students will read scholarly texts in their areas of academic interest intensively. Training will also include improving students' speaking and listening skills so they can participate in academic talks and discussions and speak fluently and at length across academic topics.

#### BANG 40100-40200-40300. Fourth-Year Bangla (Bengali) I-II-III.

Students attending this course must be able to produce an articulate discourse on subjects related to history and literary criticism. They should also have a good command of Bengali grammar. The course is mainly devoted to the study of selected modern and premodern Bangla texts (narrative literature, devotional and courtly poetry, treatises) in their historical contexts. We propose various readings in the historiography of Bangla literature, philology, traditional performance of Bangla poetry, etc... Besides, material from all periods will be studied according to the student's scholarly interests.

## BANG 40100. Fourth-Year Bangla (Bengali) I. 100 Units.

Students attending this course must be able to produce an articulate discourse on subjects related to history and literary criticism. They should also have a good command of Bengali grammar. The course is mainly devoted to the study of selected modern and premodern Bangla texts (narrative literature, devotional and courtly poetry, treatises) in their historical contexts. We propose various readings in the historiography of Bangla literature, philology, traditional performance of Bangla poetry, etc... Besides, material from all periods will be studied according to the student's scholarly interests.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): Third year Bangla or comparable level of language skills

#### BANG 40200. Fourth-Year Bangla II. 100 Units.

TBD

Instructor(s): Staff Terms Offered: Winter Prerequisite(s): BANG 40100 or comparable level of language skills

# BANG 40300. Fourth-Year Bangla III. 100 Units.

Students attending this course must be able to produce an articulate discourse on subjects related to history and literary criticism. They should also have a good command of Bengali grammar. The course is mainly devoted to the study of selected modern and premodern Bangla texts (narrative literature, devotional and courtly poetry, treatises) in their historical contexts. We propose various readings in the historiography of Bangla literature, philology, traditional performance of Bangla poetry, etc... Besides, material from all periods will be studied according to the student's scholarly interests.

Instructor(s): T. d'Hubert Terms Offered: Spring

Prerequisite(s): BANG 40200 or comparable level of language skills

#### BANG 47900-47901-47902. Rdgs: Advanced Bangla (Bengali) I-II-III.

This course is for students who have successfully completed third and fourth year Bangla. It is divided between classes dealing with the current research themes of the instructor, and the study of material directly related with the research interests of the students. The focus is on methodology and the use of Bangla as a research language.

#### BANG 47900. Rdgs: Advanced Bangla I. 100 Units.

This course is for students who have successfully completed third and fourth year Bangla. It is divided between classes dealing with the current research themes of the instructor, and the study of material directly related with the research interests of the students. The focus is on methodology and the use of Bangla as a research language. Instructor(s): M. Bhaduri Terms Offered: Autumn Devensition (A): PARAMENTED (A): 1020

Prerequisite(s): BANG 40300

#### BANG 47901. Rdgs: Advanced Bangla (Bengali) II. 100 Units.

TBD

Instructor(s): M. Bhaduri Terms Offered: Winter Prerequisite(s): BANG 47900

## BANG 47902. Readings: Advanced Bangla III. 100 Units.

This course is for students who have successfully completed third and fourth year Bangla. It is divided between classes dealing with the current research themes of the instructor, and the study of material directly related to the research interests of the students. The focus is on methodology and the use of Bangla as a research language. Instructor(s): M. Bhaduri Terms Offered: Spring Prerequisite(s): BANG 47901

# BANG 47903. Writing, Reading, and Singing in Bengal, 8th to 19th AD. 100 Units.

The course offers an introduction to the literary traditions of Bengal (today's West Bengal in India, and Bangladesh). We will study the making of Bengal as a region of literary production through a selection of secondary and primary sources in translation. We will look at how literature and literacy have been defined in various contexts up to the colonial period and discuss what constituted the literary identity of Bengal's various linguistic traditions. We will approach the topics of reading practices and genres from the perspective of both material culture (script and scribal practices, manuscript formats, etc.) and the conceptual categories underlying literary genres and the linguistic economy of Bengal (scholastic and non-scholastic, classical and vernacular languages, individual reading and publicly performed texts, hinduyani and musalmani). Even if Bengali language and literature and were part of the background of the making of Bengali lexts (Sanskrit, Apabhramsha, Arabic, Persian, Maithili, and Awadhi literature). The aim of the course is to introduce students to precolonial Bengali literature in its conceptual, aesthetic, and historical dimensions. The course will address topics of interest for students in comparative literature, religious studies, history, linguistics, medieval studies, book history, musicology or performance studies.

#### Instructor(s): T. D'Hubert Terms Offered: Autumn

Note(s): Students who want to take the course as an Advanced Bangla (BANG 47903) course must attend the additional reading course in which we will do close readings of texts in Bengali. Equivalent Course(s): SALC 47903

#### Hindi Courses

# HIND 30100-30200-30300. Third-Year Hindi I-II-III.

Readings from Hindi literary and journalistic texts and a wide array of other sources depending on student interests, with continuing grammar review and practice in listening comprehension, composition and speech.

## HIND 30100. Third-Year Hindi I. 100 Units.

Readings from Hindi literary and journalistic texts and a wide array of other sources depending on student interests, with continuing grammar review and practice in listening comprehension, composition and speech.

Instructor(s): U. Stark Terms Offered: Autumn

Prerequisite(s): HIND 20300 or comparable level of language skills

#### HIND 30200. Third-Year Hindi II. 100 Units.

Readings from Hindi literary and journalistic texts and a wide array of other sources depending on student interests, with continuing grammar review and practice in listening comprehension, composition and speech. Instructor(s): T. Williams Terms Offered: Winter Prerequisite(s): HIND 30100 or comparable level of language skills

# HIND 30300. Third-Year Hindi III. 100 Units.

Readings from Hindi literary and journalistic texts and a wide array of other sources depending on student interests, with continuing grammar review and practice in listening comprehension, composition and speech. Instructor(s): U. Stark Terms Offered: Spring Prerequisite(s): HIND 30200 or comparable level of language skills

#### HIND 40100-40200-40300. Fourth-Year Hindi I-II-III.

Readings from Hindi literary and journalistic texts and a wide array of other sources depending on student interests, with continuing grammar review and practice in listening comprehension, composition and speech.

# HIND 40100. Fourth-Year Hindi I. 100 Units.

Readings from Hindi literary and journalistic texts and a wide array of other sources depending on student interests, with continuing grammar review and practice in listening comprehension, composition and speech.

Instructor(s): U. Stark Terms Offered: Autumn

Prerequisite(s): HIND 30300 or comparable level of language skills

# HIND 40200. Fourth-Year Hindi II. 100 Units.

TBD

Instructor(s): T. Williams Terms Offered: Winter Prerequisite(s): HIND 40100 or comparable level of language skills

#### HIND 40300. Fourth-Year Hindi III. 100 Units.

TBD

Instructor(s): U. Stark Terms Offered: Spring Prerequisite(s): HIND 40200 or comparable level of language skills

#### HIND 47900-47901-47902. Rdgs: Advanced Hindi I-II-III.

Readings from Hindi literary and journalistic texts and a wide array of other sources depending on student interests, with continuing grammar review and practice in listening comprehension, composition and speech.

# HIND 47900. Readings: Advanced Hindi I. 100 Units. TBD

Instructor(s): U. Stark Terms Offered: Autumn Prerequisite(s): HIND 40300

# HIND 47901. Readings: Advanced Hindi II. 100 Units.

TBD

Instructor(s): T. Williams Terms Offered: Winter Prerequisite(s): HIND 47900

# HIND 47902. Readings: Advanced Hindi III. 100 Units.

## TBD

Instructor(s): U. Stark Terms Offered: Spring Prerequisite(s): HIND 47901

# Marathi Courses

# MARA 30100-30200-30300. Third-Year Marathi I-II-III.

MARA 30100-30200-30300 is offered based on demand. Interested students should consult with the director of undergraduate studies. Students in this course read from An Advanced Marathi Reader and a wide array of other sources depending on their interests. This course also includes continuing grammar review and practice in composition and speech. This course typically is offered in alternate years.

# MARA 30100. Third-Year Marathi I. 100 Units.

Readings from An Advanced Marathi Reader and a wide array of other sources depending on student interests, with continuing grammar review and practice in composition and speech. Instructor(s): S. Mahajan Terms Offered: Autumn Prerequisite(s): MARA 20300 or equivalent

# MARA 30200. Third-Year Marathi II. 100 Units.

Readings from An Advanced Marathi Reader and a wide array of other sources depending on student interests, with continuing grammar review and practice in composition and speech. Instructor(s): S. Mahajan Terms Offered: Winter Prerequisite(s): MARA 20300 or equivalent

# MARA 30300. Third-Year Marathi III. 100 Units.

Readings from An Advanced Marathi Reader and a wide array of other sources depending on student interests, with continuing grammar review and practice in composition and speech. Instructor(s): S. Mahajan Terms Offered: Spring Prerequisite(s): MARA 20300 or equivalent

## MARA 40100-40200-40300. Fourth-Year Marathi I-II-III.

MARA 40100-40200-40300 is offered based on demand. Interested students should consult with the director of undergraduate studies. Directed readings are selected (based on student interests and research needs) from the entire range of genres (verse and prose) and periods, excluding Old Marathi (thirteenth and fourteenth centuries), with continuing grammar review and practice in composition and speech.

# MARA 40100. Fourth-Year Marathi I. 100 Units. TBD

Instructor(s): S. Mahajan Terms Offered: Autumn Prerequisite(s): MARA 30300 or equivalent

# MARA 40200. Fourth-year Marathi-2. 100 Units.

Instructor(s): S. Mahajan Terms Offered: Winter Prerequisite(s): MARA 30300 or equivalent

# MARA 40300. Fourth-Year Marathi-3. 100 Units.

TBD Instructor(s): S. Mahajan Prerequisite(s): MARA 30300 or equivalent

# MARA 47900. Readings: Advanced Marathi. 100 Units.

TBD

Instructor(s): S. Mahajan

# MARA 47901. Advanced Readings in Marathi-2. 100 Units.

TBD Instructor(s): S. Mahajan Terms Offered: Winter

Courses

# Sanskrit Courses

# SANS 30100-30200-30300. Third-Year Sanskrit I-II-III.

Reading selections introduce major Sanskrit genres, including verse and prose narrative, lyric poetry, drama, and the intellectual discourse of religion, philosophy, and the sciences. Analysis of the language and style employed in commentarial texts and practice in reading such texts is also emphasized.

## SANS 30100. Third-Year Sanskrit I. 100 Units.

Reading selections introduce major Sanskrit genres, including verse and prose narrative, lyric poetry, drama, and the intellectual discourse of religion, philosophy, and the sciences. Analysis of the language and style employed in commentarial texts and practice in reading such texts is also emphasized. Instructor(s): G. Tubb Terms Offered: Autumn

Prerequisite(s): SANS 20300 or approval of instructor

# SANS 30200. Third-Year Sanskrit II. 100 Units.

TBD

Instructor(s): D. Arnold Terms Offered: Winter Prerequisite(s): SANS 30100 or approval of instructor

# SANS 30300. Third-Year Sanskrit III. 100 Units.

TBD

Instructor(s): G. Tubb Terms Offered: Spring Prerequisite(s): SANS 30200 or approval of instructor

## SANS 40100-40200-40300. Fourth-Year Sanskrit I-II-III.

The goal of this sequence is to provide students with strong reading expertise in a wide range of Sanskrit texts in literature (poems and plays, verse and prose) and the scientific and philosophical discourses (e.g., grammar, logic, poetic theory, Buddhist thought), and commentarial literature on both.

### SANS 40100. Fourth-Year Sanskrit I. 100 Units.

The goal of this sequence is to provide students with strong reading expertise in a wide range of Sanskrit texts in literature (poems and plays, verse and prose) and the scientific and philosophical discourses (e.g., grammar, logic, poetic theory, Buddhist thought), and commentarial literature on both. Instructor(s): G. Tubb Terms Offered: Autumn

Prerequisite(s): PQ: Third year Sanskrit or comparable level of language skills. SANS 30300 or approval of instructor.

# SANS 40200. Fourth-Year Sanskrit II. 100 Units.

TBD

Instructor(s): D. Arnold Terms Offered: Winter Prerequisite(s): SANS 40100 or approval of instructor

# SANS 40300. Fourth-Year Sanskrit III. 100 Units.

TBD

Instructor(s): G. Tubb Terms Offered: Spring Prerequisite(s): SANS 40200 or approval of instructor

# SANS 47900-47901-47902. Rdgs: Advanced Sanskrit I-II-III.

Readings drawn from texts at an advanced level of difficulty in any of the relevant genres of Sanskrit, including literature, philosophy, literary theory, and religion, for students who have already completed fourth-year Sanskrit. Continuing attention is given to matters of grammar, style, scholastic techniques, and intellectual and cultural content.

## SANS 47900. Readings: Advanced Sanskrit I. 100 Units.

TBD Instructor(s): G. Tubb Terms Offered: Autumn Prerequisite(s): SANS 40300

# SANS 47901. Rdgs: Advanced Sanskrit II. 100 Units.

TBD

Instructor(s): D. Arnold Terms Offered: Winter Prerequisite(s): SANS 47900

# SANS 47902. Readings: Advanced Sanskrit-III. 100 Units.

An advanced Sanskrit reading course focusing on the development of skills in either classical belles lettres (ka#vya) or scholastic, commentarial prose (s#a#stra). In the former, emphasis is on the ability to re-arrange complex poetic forms into digestible prose word order. In the latter, students learn both the stylistic conventions of scholastic Sanskrit and the technical vocabulary of the relevant intellectual discipline.

Instructor(s): G. Tubb Terms Offered: Spring

Equivalent Course(s): DVPR 41500

# South Asian Languages and Civilizations Courses

# SALC 30011. Inequalities. 100 Units.

This course analyzes inequality and the overt and covert violence that results from it. These inequalities are often grounded in gender and sex but also result from a complex intersection of sex gender systems with other historical factors such as city life, environment, media and so on. Inequality is what produces the experience of differential citizenship, a topic that exercises scholars the world over. In particular, those interested in issues of feminism, community, and ethnicity have studied why women (some women more than others) or particular social groups such as gay or trans groups, experience disenfranchisement more than their counterparts, even when, officially, many cultures/ nation states grant their members/ citizens formal legal equality. Many of the examples around which this course is framed emerge out of South Asia, but our analyses will be structured through an engagement with theoretical texts that address issues of gendered oppression and discrimination in other parts of the world. Readings will include historical, anthropological, literary texts.

Instructor(s): Rochona Majumdar Terms Offered: Autumn

Prerequisite(s): Students who have previously completed "Problems in the Study of Gender and Sexuality: Inequality" are not eligible to receive credit for this class.

Note(s): This course counts as a Problems course for GNSE majors.

Equivalent Course(s): GNSE 20113, GNSE 30111, SALC 20113

## SALC 30100. Introduction to the Civilizations of South Asia I. 100 Units.

The first quarter focuses on Islam in South Asia, Hindu-Muslim interaction, Mughal political and literary traditions, and South Asia's early encounters with Europe.

Instructor(s): M. Alam Terms Offered: Winter

Equivalent Course(s): ANTH 24101, HIST 10800, MDVL 20100, SOSC 23000, SALC 20100

# SALC 30513. Theater of Premodern South Asia. 100 Units.

This course will cover the history and poetics of the stage play in premodern South Asia, which was, according to the eighth-century theorist V#mana, "the best among the types of literature." The play, according to many premodern critics, was uniquely capable of bringing about a profound aesthetic experience because of its integration of diverse forms of art - plot-driven narrative, poetry, acting, and music. We will read a variety of plays in translation, including works by Bh#sa, K#lid#sa, Bhavabh#ti, and Mur#ri, as well as selections from technical literature such as the Treatise on Theater (N##ya##stram). We will also watch a number of modern performances. Besides discussing individual plays, we will cover the following topics in detail: the different genres of the stage play; the theory of plot construction; the theory of aesthetic experience (rasa); the languages of the theater; the role of music, dance, and gesture; theater and ritual; and the performance tradition of K##iy###am.

Instructor(s): Andrew Ollett Terms Offered: Winter

Prerequisite(s): No prior knowledge of South Asian languages is required. Students who can read Sanskrit, however, are strongly encouraged to take an accompanying reading course.

Equivalent Course(s): TAPS 30513, SALC 20513, TAPS 20513

## SALC 30800. Music of South Asia. 100 Units.

The course explores some of the music traditions that hail from South Asia-a region defined by the countries of India, Pakistan, Sri Lanka, Nepal, Bhutan, Afghanistan, Maldives, and their diasporas. The course will study music and some of its inextricably linked forms of dance and theatre through the lens of ethnomusicology, where music is considered in its social and cultural contexts. Students will develop tools to listen, analyze, watch, and participate in South Asian forms of musicmaking, using case-study based inquiries as guides along the way.

Instructor(s): Ameera Nimjee Terms Offered: Spring

Equivalent Course(s): MUSI 23706, MUSI 33706, RLST 27700, SALC 20800

# SALC 30901-30902. Indian Philosophy I-II.

## SALC 30901. Indian Philosophy I: Origins and Orientations. 100 Units.

This course introduces some of the early themes and textual traditions that set much of the agenda for the later development of Indian philosophy. Particular attention will be paid to the rivalry that was perhaps most generative throughout the history of Indian philosophy: that between the Hindu schools of thought rooted in the Vedas, and the Buddhists who so powerfully challenged them.

Instructor(s): Dan Arnold Terms Offered: Winter

Equivalent Course(s): SALC 20901, RLST 24201, HREL 30200, DVPR 30201

# SALC 30902. Indian Philosophy II: The Classical Traditions. 100 Units.

This course follows the first module on Indian philosophy by exploring the debates between several classical "schools" or "viewpoints" (dar#anas) of Indian philosophy. In addition to expanding upon the methods of systematized reasoning inaugurated by the Ny#ya and Buddhist epistemological traditions, particular attention will be given to systems of scriptural hermeneutics -- M#m##s# and Ved#nta -- and their consequences for the philosophy of language, theories of cognitive error, and even poetics.

Instructor(s): Anand Venkatkrishnan, Andrew Ollett Terms Offered: Spring

Equivalent Course(s): DVPR 30302, SALC 20902, HREL 30300, RLST 24202, MDVL 24202

# SALC 30927. Knowledge as a Platter: Comparative Perspectives on Knowledge Texts in the Ancient World. 100 Units.

In various ancient cultures, sages created the new ways of systematizing what was known in fields as diverse as medicine, politics, sex, dreams, and mathematics. These texts did more than present what was known; they exemplified what it means to know - and also why reflective, systematic knowledge should be valued more highly than the knowledge gained from common sense or experience. Drawing on texts from Ancient India, Greece, Rome, and the Near East, this course will explore these early templates for the highest form of knowledge and compare their ways of creating fields of inquiry: the first disciplines. Texts include the Arthashastra, the Hippocratic corpus, Deuteronomy, the Kama Sutra, and Aristotle's Parva naturalia.

Equivalent Course(s): KNOW 31415, CHSS 30927, SCTH 30927, HREL 30927

# SALC 32202. Anthropology of Caste in Asia. 100 Units.

This seminar course explores anthropological approaches to caste. We will survey colonial ethnological accounts to structuralist, transactionalist, historical anthropological, and contemporary ethnographic accounts of forms of caste difference, identity, and violence in South and East Asia, with an eye to comparison to other forms of invidious social difference in other times and cultures.

Instructor(s): Constantine Nakassis Terms Offered: Winter. Winter 2021

Prerequisite(s): This course qualifies as a Discovering Anthropology selection for Anthropology Majors. Equivalent Course(s): ANTH 32202, SALC 22202, ANTH 22202

# SALC 32605. A Poem in Every House': Persian, Arabic, and Vernacular Poetry in North India and the Deccan. 100 Units.

gehe gehe kalau k#vya# ... In the Kali age, there is a poem in every house ... Vidy#pati (ca. 1370-1460, Mithila), K#rtilat# The Indian subcontinent is home to some of the most vibrant literary traditions in world history. The aim of this course is to introduce students to the main trends in the premodern (/pre-nineteenth century) literature of South Asia through a selection of poetic and theoretical texts translated from a variety of languages (Arabic, Bengali, Dakani, Hindi, Maithili, Marathi, Persian, Panjabi, Sanskrit, Urdu, etc.). We will discuss issues of literary historiography, the relations between orality and writing, and the shared aesthetic world of poetry, music, and visual arts. We will review the basic principles of Perso-Arabic and vernacular poetics through a selection of representative theoretical treatises and poems. We will also explore the linguistic ecology of the Subcontinent, the formation of vernacular literary traditions, multilingual literacy, and the role of literature in social interactions and conceptual background of the texts we will read in the second half. Attention will be given to the original languages in which those texts were composed as well as the modes of performance of the poems and songs we will read together.

Instructor(s): T. D'Hubert Terms Offered: Autumn

Note(s): No prior knowledge of South Asian languages is required. The course is the perfect complement to the Introduction to South Asian Civilizations sequence (SALC 20100-20200). Beyond its focus on South Asia, students interested in classics, poetics, rhetoric, musicology, theater studies, and comparative literature will find plenty of food for thought in the readings, lectures, and class discussions. For students interested in languages, it is an ideal way to have a lively introduction to the linguistic variety of South Asia.

Equivalent Course(s): SALC 22604, MDVL 22604

# SALC 32606. Classical Literature of South Asia: Part One. 100 Units.

This is a broadly chronological survey of South Asia's literary traditions. In the first part of this two-part sequence, our focus will be on the first millennium CE, and we will read a wide variety of literary works in translation: lyric poetry, stage plays, courtly epics, romances and satires. We will read these texts as representing both evolving traditions of literary art and a diverse constellation of social imaginaries. Our conversations will thus range over: questions of language, genre, form and style; subcontinental traditions of poetics, which elaborated the themes and techniques of literary art; issues of sexuality and gender; the intellectual and religious traditions with which works of literature were in conversation; contexts of performance; and issues of literary history. We will sometimes read short texts in the original languages (Prakrit, Tamil and Sanskrit) to gain a better understanding of their texture and technique, but no prior knowledge of South Asian languages is required. The second part of this two-part sequence will cover South Asian literature from about 1000 to 1750. The courses may be taken in any order.

Instructor(s): Andrew Ollett Terms Offered: Autumn Equivalent Course(s): SALC 22605

# SALC 33101. Love, Conjugality, and Capital: Intimacy in the Modern World. 100 Units.

A look at societies in other parts of the world demonstrates that modernity in the realm of love, intimacy, and family often had a different trajectory from the European one. This course surveys ideas and practices surrounding love, marriage, and capital in the modern world. Using a range of theoretical, historical, and anthropological readings, as well as films, the course explores such topics as the emergence of companionate marriage in Europe and the connections between arranged marriage, dowry, love, and money. Case studies are drawn primarily from Europe, India, and Africa.

Instructor(s): J. Cole, R. Majumdar Terms Offered: Winter

Prerequisite(s): Any 10000-level music course or consent of instructor

Note(s): This course typically is offered in alternate years.

Equivalent Course(s): ANTH 32220, SALC 43101, CHDV 33212, CRES 23101, ANTH 21525, GNSE 23102, HIST 26903, CHDV 22212, GNSE 31700, HIST 36903, CRES 33101

SALC 33700. How to do Things with South Asian Texts? Literary Theories and South Asian Literatures. 100 Units. This course provides an overview of different methods, approaches and themes currently prevalent in the study of South Asian texts from various periods. Topics covered will include translation (theory and practice), book history, literary history, textual criticism, genre theory (the novel in South Asia), literature and colonialism, cultural mobility studies (Greenblatt) and comparative literature/new philologies (Spivak, Ette). Readings will include work by George Steiner, Sheldon Pollock, Meenakshi Mukherjee, Terry Eagleton, Stephen Greenblatt, Gayatri Spivak, Ottmar Ette, and others. We will discuss these different approaches with particular reference to the texts with which participating students are working for their various projects. Students interested in both pre-modern and modern/contemporary texts are welcome. While the course is organized primarily from a literary studies perspective, it will also be of interest to students of history, anthropology and other disciplines dealing with "texts". The course is open to both undergraduate and graduate students (no prior knowledge of literary theory or South Asian writing is assumed).

Instructor(s): Sascha Ebeling Terms Offered: Spring

Equivalent Course(s): CMLT 33700

# SALC 34300. Buddhist Poetry in India. 100 Units.

The substantial Buddhist contribution to Indian poetry is of interest for what it teaches us of both Buddhism and the broad development of Indian literature. The present course will focus upon three phases in this history, with attention to what changes of language and literary genre tell us of the transformations of Indian religious culture from the last centuries B.C.E. to about the year 1000. Readings (all in translation) will include the Ther#g#th#, a collection of verses written in Pali and the most ancient Indian example of womens' literature, selections from the work of the great Sanskrit poets A#vagho#a, #rya##ra, and M#tt#ceta, and the mystical songs, in the Apabhra##a language, of the Buddhist tantric saints. Instructor(s): Matthew Kapstein Terms Offered: Spring

Prerequisite(s): General knowledge of Buddhism is desirable.

Equivalent Course(s): RLST 26250, MDVL 26250, HREL 34300, RLVC 34300, DVPR 34300

## SALC 35025. Environmental Histories of the Global South. 100 Units.

Drawing on cases from Africa, Latin America, and especially Asia, this course explores key themes in the modern environmental history of the world beyond the rich industrialized North. Our investigations will focus on the ecological impacts of colonialism, war, and development, and how environmental management has helped to construct modern states and capitalist practices in turn. Ranging from the malarial plantations of the Caribbean to the forests of southeast Asia, we will analyze not-so-natural disasters like floods and chemical spills as well as the slow violence of deforestation and droughts. Combining primary sources with classic scholarship, we will encounter pioneering green activists like the original "tree huggers" of the Himalayas and environmental advocates for brutal population control. The course will conclude by examining the emergence of a newly assertive Global South in international climate negotiations, and its implications for the environmental history of our planet at large. The course is open to all, but may be of particular interest to students who have taken "Introduction to Environmental History."

Instructor(s): L. Chatterjee Terms Offered: Spring

Equivalent Course(s): SALC 25025, HIPS 25525, HIST 25025, HIST 35024, CHSS 35525

## SALC 36260. Buddhism in Early Theravada Literature. 100 Units.

A critical examination of important canonical (Buddhavacana--attributed to the Buddha) and non-canonical Pali literature central to the religious "imaginaire" of Theravada Buddhists in Sri Lanka and Southeast Asia. Literary texts include Vinayapitaka (Book of Monastic Discipline), Dhammapada (didactic verses attributed to the Buddha), Mahaparinibbana Sutta (sermon recounting the final 3 months of the Buddha's career), Vessantara Jataka (epic narrative of the Buddha's next-to-last rebirth as a king), the Edicts of Asoka (proclamations of the 3rd c. BCE Indian emperor), Anagatavamsa Desana (prophecy of the future Buddha Metteyya), Mahavamsa (the monastic "Great Chronicle" recounting the history of Buddhism) and royal inscriptions and paintings from the late-medieval period.

Instructor(s): John Holt Terms Offered: Autumn

Equivalent Course(s): HREL 36260, SALC 26260, RLST 26260, HIST 36703

## SALC 36611. Empires, Imperialism, and Islam. 100 Units.

This seminar course will survey interactions between empires and Islam from the early nineteenth century to the early twenty-first century. It will consider the varied responses of Islamic polities to the expansion of European empires, their role in proliferating networks of travel and communication, as well as the place of religion in anti-imperial and anticolonial movements. Geographically we will cover Asia very broadly defined: from the Ottoman Empire in the west, through the Middle East and Central and South Asia, to Indonesia and Malaysia to the east. Individual classes will focus, for instance, on imperial connections, the emergence of pan-Islamism, Sufi networks, oceanic travel, subaltern social and political movements, and Cold War-era Muslim ideologues. The course will conclude with a look at the rise of more militant Islamic ideologies in recent years. Investigating this two-century long history will help students understand the complex role that Islam has played in the making of the modern world. Course readings will be on the whole recent scholarship on these subjects, with key primary texts introduced in class.

Equivalent Course(s): SALC 26611, HIST 26611, HIST 36611

# SALC 36614. Making the Monsoon: The Ancient Indian Ocean. 100 Units.

The course will explore the human adaptation to a climatic phenomenon and its transformative impacts on the littoral societies of the Indian Ocean, circa 1000 BCE-1000 CE. Monsoon means season, a time and space in which favorable winds made possible the efficient, rapid crossing of thousands of miles of ocean. Its discovery-at different times in different places-resulted in communication and commerce across vast distances at speeds more commonly associated with the industrial than the preindustrial era, as merchants, sailors, religious specialists, and scholars made monsoon crossings. The course will consider the participation of Mediterranean, Middle Eastern, South Asian, and East African actors in the making of monsoon worlds and their relations to the Indian Ocean societies they encountered; the course is based on literary and archaeological sources, with attention to recent comparative historiography on oceanic, climatic, and global histories. Instructor(s): R. Payne Terms Offered: Spring

Equivalent Course(s): HIST 26614, CLCV 26620, NEHC 36614, MDVL 26614, SALC 26614, CLAS 36620, HIST 36614,

NEHC 26614

# SALC 36702. Why comment? Early modern commentarial literature. 100 Units.

What is the purpose of a commentary? What do commentaries in different languages, and on different types of texts, 'do'? This course will take the example of commentarial literature from early modern South Asia-- primarily but not exclusively northern India--to explore the different contexts, projects, and intellectual mileus in which commentaries were composed, circulated, and performed. Primary readings will be in English, Sanskrit, and Hindi, and include commentaries (and their accompanying root texts;) we will also read a selection of modern scholarly writings on commentarial literature to survey different approaches to working with commentarial works.

Instructor(s): Tyler Williams Terms Offered: Spring Equivalent Course(s): SALC 26702

# SALC 37002. Indo-Islamic Literature and Culture. 100 Units.

TBD Instructor(s): Timsal Masud Terms Offered: Spring

Equivalent Course(s): SALC 27002

# SALC 37440. Buddha Then and Now: Transformations from Amaravati to Anuradhapura. 100 Units.

The Buddhist sculptures in Amaravati are arguably the earliest to influence the early Buddhist art of the other parts of the sub-continent as well as south and southeast Asia. The course begins with the discussion of the context in which the Buddha images were made in Amaravati and the factors including Buddhist doctrinal developments that contributed to the spread of these images to various parts of Sri Lanka. Then it traces the course and function of Buddhist iconography in Sri Lanka until into the 21st century to assess the role of geopolitical factors. The positionality and portrayals of the images of Buddha are also considered and analyzed. The course traces the trajectories that transformed the image of the Buddha from a symbol of peace to jingoist assertiveness. Through the study of the images of the Buddha, the aim is to comprehend the ways Buddhism has changed over centuries from an inclusive posture which helped it sustain and spread to different parts of the world only later to become exclusionary.

Instructor(s): Sree Padma Holt Terms Offered: Winter

Equivalent Course(s): HREL 37440, RLVC 37440, RLST 27440, ARTH 27440, SALC 27440, HIST 36704, ARTH 37440

# SALC 37701. Mughal India: Tradition & Transition. 100 Units.

The focus of this course is on the period of Mughal rule during the late sixteenth, seventeenth, and eighteenth centuries, especially on selected issues that have been at the center of historiographical debate in the past decades. Instructor(s): M. Alam Terms Offered: Autumn

Prerequisite(s): Advanced standing or consent of instructor. Prior knowledge of appropriate history and secondary literature required.

Equivalent Course(s): HIST 36602, HIST 26602, NEHC 20570, NEHC 30570, SALC 27701

# SALC 38000. Introduction to Prakrit. 100 Units.

# SALC 38002. Can Women Think? The Female Intellectual in South Asia. 100 Units.

How have South Asian women crafted lives for themselves as intellectuals, regardless of their social worlds? This introductory class will examine the figure of the woman-scholar in South Asia from antiquity to the twentieth century. How have South Asian women been seen, or have seen themselves, as intellectuals? We will study how women have provided critical reflections on society, identified normative problems, and argued for their rightful place in public life. This course will think of the specificity of South Asia and the global South in order to understand the relationship between women, authority and authorship, gender and cultural production, the problems of historical memory, and will challenge the notion of a unified collective of women intellectuals by considering caste, class and religious differences. We will study more than just feminist thought and scholarship. By reflecting on the active process and performance of thinking, we will question the historical and cultural conditions in South Asia which make thinking possible for women.

Instructor(s): Ahona Panda Terms Offered: Spring

Equivalent Course(s): GNSE 28003, GNSE 38003, SALC 28002

# SALC 39001. Tibetan Buddhism. 100 Units.

This course is designed to serve as an introductory survey of the history, doctrines, institutions, and practices of Buddhism in Tibet from its origins in the mid-first-millennium through the present. Readings will be drawn both from primary sources (in translation) and secondary and tertiary scholarly research.

Instructor(s): Christian Wedmeyer Terms Offered: Spring

Equivalent Course(s): HREL 35200

# SALC 39002. Tibet: Culture, Art, and History. 100 Units.

This class will introduce students to Tibetan civilization from pre-modernity to the present with an emphasis on literature, society, visual arts, and history. Attention will be paid to Tibet's relations with neighboring polities in South, East, and Central Asia, as well as distinctive indigenous practices. The course will cover a range of Tibetan cultural forms, highlighting pre-modern sciences of medicine, logic, and meditation, as well as contemporary developments in Tibetan modernity and the diaspora communities. Course materials will include primary sources in translation (e.g. Dunhuang manuscripts and other literature), contemporary scholarship, as well as audio-visual materials. In addition to informed participation in course meetings/discussions, including regular, timely completion of reading assignments, students are expected to write two short (5-7pg) papers. Students will have the opportunity to work on any topics of Tibetan culture, art and history of their choosing for the final assignment.

Instructor(s): K. Ngodup Terms Offered: Autumn

Note(s): All course readings will be available on electronic reserve via Canvas.

Equivalent Course(s): SALC 29002

#### SALC 39900. Informal Reading Course. 100 Units.

This is a specially designed course not normally offered as part of the curriculum that is arranged between a student and a faculty member.

Instructor(s): Student chooses instructor Terms Offered: Autumn, Spring, Winter Note(s): Requires consent of instructor

## SALC 39910. Readings in Middle Bengali literature. 100 Units.

This informal reading course focuses on the methods of textual criticism in the domain of Middle Bengali. We will read various texts from manuscripts, transcribe them, analyze their content at the linguistic and stylistic levels, and translate them into English. Although the primary aim of the course is to familiarize students with the close reading of Middle Bengali poetry, we will also discuss questions of literary historiography and poetics.

Instructor(s): Thibaut d'Hubert Terms Offered: Autumn

# SALC 39911. Readings in Middle Bengali Literature II. 100 Units.

This informal reading course focuses on the methods of textual criticism in the domain of Middle Bengali. We will read various texts from manuscripts, transcribe them, analyze their content at the linguistic and stylistic levels, and translate them into English. Although the primary aim of the course is to familiarize students with the close reading of Middle Bengali poetry, we will also discuss questions of literary historiography and poetics. Instructor(s): Thibaut d'Hubert Terms Offered: Winter

Prerequisite(s): SALC 39910

# SALC 39912. Readings in Middle Bengali Literature III. 100 Units.

This is the third course in the series of informal reading courses that focus on the methods of textual criticism in the domain of Middle Bengali. We will read various texts from manuscripts, transcribe them, analyze their content at the linguistic and stylistic levels, and translate them into English. Although the primary aim of the course is to familiarize students with the close reading of Middle Bengali poetry, we will also discuss questions of literary historiography and poetics. Instructor(s): Thibaut d'Hubert Terms Offered: Spring

Prerequisite(s): SALC 39911

# SALC 39920. Readings in Indo-Persian Literature. 100 Units.

In this course we will read Persian texts produced in South Asia between the 12th and 19th centuries. The texts under scrutiny will be lyric and narrative poems, treatises on grammar and poetics, and biographical dictionaries of poets. Instructor(s): Thibaut d'Hubert Terms Offered: Autumn

# SALC 39921. Readings in Indo-Persian Literature II. 100 Units.

In this course we will read Persian texts produced in South Asia between the 12th and 19th centuries. The texts under scrutiny will be lyric and narrative poems, treatises on grammar and poetics, and biographical dictionaries of poets. Instructor(s): Thibaut d'Hubert Terms Offered: Winter

Prerequisite(s): SALC 39920

# SALC 39922. Readings in Indo-Persian Literature III. 100 Units.

In this third course we will continue to read Persian texts produced in South Asia between the 12th and 19th centuries. The texts under scrutiny will be lyric and narrative poems, treatises on grammar and poetics, and biographical dictionaries of poets.

Instructor(s): Thibaut d'Hubert Terms Offered: Spring Prerequisite(s): SALC 39921

# SALC 39923. Readings in Indo-Persian Literature IV. 100 Units.

In this graduate seminar course, we will read and discuss selections from two sets of Mughal and early modern south Asian texts: 1) some passages from the Persian translations of early Indian Sanskrit texts; 2) commentaries and observations on the classical Persian poetry and prose by south Asian scholars.

Instructor(s): Muzaffar Alam Terms Offered: Winter

Prerequisite(s): Must have the consent of the instructor.

#### SALC 40002. Sem: Postcolonial Theory. 100 Units.

#### SALC 40010. Contemporary Topics in the Study of South Asian Religion. 100 Units.

This course takes up theoretical problems in religious studies, issues specific to the study of South Asia, and the intersections between the two. It foregrounds history, that is, the historical lives of religion in the subcontinent. Theory, in both the sense of conceptualizing religion and the concepts of religious actors themselves, is treated as an historical object, as emerging from and participating in history. Topics covered in the course range between: religious encounter and shared practices; sexuality and spirit-possession; epics and everyday ethics; poverty and plenitude; hospitality and healing; colonial systems of classification; caste and regimes of unfree labor.

Instructor(s): Anand Venkatkrishnan Terms Offered: Autumn

Equivalent Course(s): HREL 40010

SALC 40020. Contemporary Topics in the Study of South Asian Religion: Imagining South Asian Islam. 100 Units. This course is a continuation of the annual seminar on contemporary topics in the Study of South Asian Religion, which

takes up theoretical problems in religious studies, issues specific to the study of South Asia, and the intersections between the two. The focus for this year is "Imagining South Asian Islam." We will read classic debates about the expansion of Islam into the subcontinent, its geographical distribution, and cultural and religious syncretism (while, at the same time, problematizing the syncretic model). We will also take up more recent scholarship that turns to broader conceptual questions about how to describe, name, and understand different moments in the history of South Asian Islam from the "Persianate Cosmopolis" to "Islamic" versus "Islamicate." The readings assigned in the course bring together diverse scholarship on history, art history, material culture, and literary analysis. By the end of the course, students will be familiar with the longe duree# arc of the history of Islam in South Asia as well as the variety of different scholarly approaches that have sought to understand and interpret the specificity of Islam in the context of the subcontinent.

Instructor(s): Sarah Pierce Taylor Terms Offered: Autumn

Note(s): By permission only. Please email Professor Pierce Taylor with a description of your background and relevant interests in this course. This course is open to undergrads ONLY by Petition.

Equivalent Course(s): RLVC 40025, HREL 40020, ISLM 40020

# SALC 40104. Research Themes in South Asian Studies: Aesthetic Thought. 100 Units.

In this seminar we will attempt to understand what the realm of the 'aesthetic' is as a phenomenon and what 'aesthetics' is as a field of intellectual inquiry. Our goal will be to understand individually and analyze comparatively material from major traditions of aesthetic thought in South Asia in order to understand how people at various times and places have delineated the concept or phenomenon of aesthetic experience and attempted to explain it. One of the salient questions in the course will be whether any distinction can or should be made between 'critical' and 'creative' works when speaking of aesthetic discourse. Ultimately, our aim is not simply to understand aesthetic discourse on its own terms, but to understand how it intersects other critical, creative, social, and political discourses, such as poetics, ethics, statecraft, metaphysics, etcetera, and to observe how it functions in spheres beyond 'art' proper, such as religion, politics, and human sexuality.

#### SALC 40401. Pedagogy and Methods. 100 Units.

This class is a seminar designed to help students with pedagogical issues that arise in teaching South Asia. We will address the major milestones of a graduate student career in South Asian studies. This class is also designed to help you teach successfully in the College classroom. You will have opportunities to practice both lecturing and discussion-leading, to observe and reflect on others' teaching, and to design syllabi and assignments. Your assignments in this course will together constitute an initial draft of your teaching portfolio, including a statement of teaching philosophy, sample syllabi, assignments, and other materials.

Instructor(s): R. Majumdar Terms Offered: Spring Prerequisite(s): Open only to Ph.D. students.

#### SALC 42117. A Global Sonic History in 30 Objects. 100 Units.

Students will draw upon the wide range of disciplinary perspectives that contribute to sound studies. Collectively they will use these to understand the historical meaning present in the materiality of what we call the "audio moment." Critical to the audio moment is the transformation from object to subject, from the material to the sonic. These transformations unleash meaning and generate the multiple subjectivities from which history emerges. Basic ontologies will be challenged in our consideration of each object. The objects we consider are largely not primarily associated with music alone, but through their transformation into audio moments we are often able to understand just where music situates them in the human subjectivities of different societies. In addition to its interdisciplinarity this CDI seminar will be broadly comparative and will draw upon diverse sources and collections for its objects (e.g., with visits to urban and architectural spaces on campus, the Art Institute of Chicago, the Digital Media Archive). The goal of such comparative investigation is not to undo ontological assumptions about the dialectics of music/sound, but rather to use the collective thought that grows from the seminar participants to generate new approaches to the aesthetics and epistemology of sound and history globally. Equivalent Course(s): MUSI 42117, CDIN 42117, CMES 42117

# SALC 42910. Gender and Sexuality in South Asian Religions. 100 Units.

From Va#tsya#yana's Ka#masu#tra to debates around widow remarriage in the colonial period, the nexus of gender and sexuality fundamentally shapes religious practices and beliefs as well as the lives of women and gender non-conforming people. The central questions guiding this course are: How do South Asian religious traditions incorporate sexual practice and/or restraint into a vision of ethical life? When does one's gender become dangerous or unethical? How do histories of imperialism interfere with and transform the study of gender and sexuality in South Asian religions? In pursuing these questions through a range of methodological approaches to the field, students will gain a deep familiarity with practices of religious asceticism, the place of erotics within religious discourse, new perspectives on queer and trans theory, emic feminisms, and sexual ethics.

Instructor(s): Sarah Pierce Taylor Terms Offered: Winter

Note(s): This course is open to undergraduates with the permission of the instructor.

Equivalent Course(s): RLVC 42910, GNSE 42911, HREL 42910

# SALC 43101. Love, Conjugality, and Capital: Intimacy in the Modern World. 100 Units.

A look at societies in other parts of the world demonstrates that modernity in the realm of love, intimacy, and family often had a different trajectory from the European one. This course surveys ideas and practices surrounding love, marriage, and capital in the modern world. Using a range of theoretical, historical, and anthropological readings, as well as films, the course explores such topics as the emergence of companionate marriage in Europe and the connections between arranged marriage, dowry, love, and money. Case studies are drawn primarily from Europe, India, and Africa.

Instructor(s): J. Cole, R. Majumdar Terms Offered: Winter

Prerequisite(s): Any 10000-level music course or consent of instructor

Note(s): This course typically is offered in alternate years.

Equivalent Course(s): SALC 33101, ANTH 32220, CHDV 33212, CRES 23101, ANTH 21525, GNSE 23102, HIST 26903, CHDV 22212, GNSE 31700, HIST 36903, CRES 33101

# SALC 43105. Women's Rights, Cultural Nationalisms, and Moral Panics. 100 Units.

The discourse on women's rights, and more gradually the rights of transgender and intersex communities, has gained tremendous momentum globally in the last few decades. At the same time, in many parts of the world, these changes have been accompanied by moral panics over what such empowerment means for national "cultures." They have sometimes also resulted in violence against women and sexual minorities. In South Africa, for example, marriage rates have reached new lows and single mothers have become a highly visible social category, eligible for state relief through a newly-instated Child Support Grant. Their access to these new state privileges has been accompanied by increased social surveillance; South African men and elders accuse young mothers of abusing their rights, upending the moral order. Both Uganda and Kenya, where national constitutions guarantee gender quotas for elected politicians, have also recently passed national legislation that seeks to regulate women's clothing (i.e. the so-called "Miniskirt Bill" passed in Uganda in 2014). In India, women's increasing participation in the workforce and their visibility in public space, or couples who contract marriages across religious divides, have led to violent disciplining by other members of the community, sometimes in the name of a "love Jihad." Feminists and queer activists, however, are not mute in the face of such resistance. Instead they have sought new ways to make claims about their right to "public" space.

Equivalent Course(s): CDIN 43105, HIST 40101, CHDV 30609, ANTH 35218

## SALC 43800. Wives, Widows, and Prostitutes: Indian Literature and the 'Women's Question' 100 Units.

From the early 19th century onward, the debate on the status of Indian women was an integral part of the discourse on the state of civilization, Hindu tradition, and social reform in colonial India. This course will explore how Indian authors of the late 19th and early 20th centuries engaged with the so-called "women's question." Caught between middle-class conservatism and the urge for social reform, Hindi and Urdu writers addressed controversial issues such as female education, child marriage, widow remarriage, and prostitution in their fictional and discursive writings. We will explore the tensions of a literary and social agenda that advocated the 'uplift' of women as a necessary precondition for the progress of the nation, while also expressing patriarchal fears about women's rights and freedom. The course is open to both undergraduate and graduate students. Basic knowledge of Hindi and/or Urdu is preferable, but not required. We will read works by Nazir Ahmad, Premcand, Jainendra Kumar, Mirza Hadi Ruswa, and Mahadevi Varma in English translation, and also look at texts used in Indian female education at the time.

Instructor(s): U. Stark Terms Offered: Spring

Prerequisite(s): Consent of instructor based on demonstrated knowledge of Hindi

Equivalent Course(s): GNSE 47900, GNSE 27902, SALC 27904

# SALC 44701. Ritual in South Asian Buddhism. 100 Units.

This course will explore some ritual practices and theories of South Asian Buddhists in light of current theorization of ritual. What is it that Buddhists "actually" (physically and verbally) do? And, what do they say about what they do? Does what they do "mean" anything? If so, how? And, what significance might this have for anyone else? What happens when we consider these possibly meaningful forms of expression as "ritual?" Exemplaria will be drawn from India, Nepal, Burma and Tibet, with some comparative perspectives considered along the way.

Instructor(s): Christian Wedemeyer Terms Offered: Winter

Prerequisite(s): Some prior study of South Asian religions

Equivalent Course(s): HREL 44701

# SALC 46903. History and Literature of Pakistan: Postcolonial Representations. 100 Units.

No description available. Instructor(s): C.R. Perkins Terms Offered: Autumn Equivalent Course(s): HIST 26608, NEHC 26903, SALC 26903

# SALC 47270. Being Buddhist in Southeast Asia. 100 Units.

A study of the various ways in which lay and monastic Buddhists practice and express their understanding of the Theravada religious path in Sri Lanka and SE Asia (Laos, Thailand, Myanmar and Cambodia). Ethnographic and historical readings will focus on social (ritual) articulations of Buddhist practice and identity in contemporary cultural contexts. A term paper on topic in consultation with instructor is required.

Instructor(s): John Holt Terms Offered: Spring

Prerequisite(s): Previous familiarity with Buddhism in south or southeast Asia.

Note(s): This course is open to undergrads ONLY by Petition.

Equivalent Course(s): HREL 47270

# SALC 47302. Transmission of Islamic Knowledge in South Asia since 1800. 100 Units.

Equivalent Course(s): ISLM 37302, NEHC 37302, HIST 45904

# SALC 47903. Writing, Reading, and Singing in Bengal, 8th to 19th AD. 100 Units.

The course offers an introduction to the literary traditions of Bengal (today's West Bengal in India, and Bangladesh). We will study the making of Bengal as a region of literary production through a selection of secondary and primary sources in translation. We will look at how literature and literacy have been defined in various contexts up to the colonial period and discuss what constituted the literary identity of Bengal's various linguistic traditions. We will approach the topics of reading practices and genres from the perspective of both material culture (script and scribal practices, manuscript formats, etc.) and the conceptual categories underlying literary genres and the linguistic economy of Bengal (scholastic and non-scholastic, classical and vernacular languages, individual reading and publicly performed texts, hinduyani and musalmani). Even if Bengali literature stand at the center of this course, we will also discuss the literary traditions that predate the formation of Bengali literature and were part of the background of the making of Bengali texts (Sanskrit, Apabhramsha, Arabic, Persian, Maithili, and Awadhi literature). The aim of the course is to introduce students to precolonial Bengali literature in its conceptual, aesthetic, and historical dimensions. The course will address topics of interest for students in comparative literature, religious studies, history, linguistics, medieval studies, book history, musicology or performance studies.

Instructor(s): T. D'Hubert Terms Offered: Autumn

Note(s): Students who want to take the course as an Advanced Bangla (BANG 47903) course must attend the additional reading course in which we will do close readings of texts in Bengali.

Equivalent Course(s): BANG 47903

# SALC 48203. Buddhist Narratives. 100 Units.

This course will read and discuss stories translated mostly from Pali (with some from Sanskrit), on the topics of the Buddha's (extended) (Auto)biography, and the Past Lives of the Buddha (J#takas) culminating in an analysis of various versions of the Vessantara (Vi#vantara) J#taka. Such stories will be considered also in light of the theory of the Ten Excellencies (Perfections. p#ram#). It will also study some works on Narrative Theory, and on the difference between narrative and systematic thought, asking what different textual form makes to Buddhist ideas, ideals and values.

Instructor(s): S. Collins Terms Offered: Spring

Prerequisite(s): PQ: Previous knowledge of Buddhism (at least one course) Equivalent Course(s): HREL 48203

# SALC 48306. Indian Buddhism. 100 Units.

This course is designed to serve as an introductory survey of the history, doctrines, institutions, and practices of Buddhism in India from its origins through the present. Readings will be drawn both from primary sources (in translation) and secondary and tertiary scholarly research.

Instructor(s): Christian Wedemeyer Terms Offered: Winter Equivalent Course(s): HREL 35100

## SALC 48316. Readings: Advanced Tibetan III and Introduction to Buddhist Hybrid Sanskrit. 100 Units.

Complementing the course on Buddhist Poetry in India, we will be reading a celebrated verse scripture, the Prajñ#-p#ramit#ratnagu#a-sañcaya-g#th# ("Verses Gathering the Jewel-like Qualities of the Perfection of Wisdom") in both its Buddhist Hybrid Sanskrit original and its Tibetan translation. (Students are required to have had at least two years of either Sanskrit or Tibetan - it will not be necessary to do both.) Those wishing to take the course for Sanskrit credit should enroll in SALC. Instructor(s): Matthew Kapstein Terms Offered: Spring

Prerequisite(s): Students must have had two years of Tibetan OR Sanskrit.

Note(s): This course is open to undergrads ONLY by petition.

Equivalent Course(s): TBTN 47902, HREL 52402

# SALC 48317. Readings in Madhyamaka. 100 Units.

This course will involve close philosophical attention to a representative range of Indian Madhyamaka texts. Instructor(s): Dan Arnold Terms Offered: Winter

Prerequisite(s): Some Tibetan or Sanskrit is expected. Exceptions with consent of the instructor. Equivalent Course(s): DVPR 41700

## SALC 48400. Second-Year Sanskrit II. 100 Units.

This sequence begins with a rapid review of grammar learned in the introductory course, followed by readings from a variety of Sanskrit texts. The goals are to consolidate grammatical knowledge, expand vocabulary, and gain confidence in reading different styles of Sanskrit independently. The winter quarter will be a reading of the Mahabharata. Instructor(s): W. Doniger Terms Offered: Winter

Prerequisite(s): SANS 20100 or consent of instructor

Equivalent Course(s): SANS 20200, HREL 36000

# SALC 48403. Text and World in Medieval India. 100 Units.

# SALC 48405. The Theory and Practice of Indic Textual Criticism. 100 Units.

This course will serve as an introduction to the methods of textual criticism, the practice of editorial philology, and the bibliographical nature of the critical edition as they are applicable to premodern South Asia, especially to works in Sanskrit, although other linguistic and textual cultures will also be considered. The titular difference between 'theory' and 'practice' is not meant as a cliché, and the two weekly sessions will be organized along distinct lines. In the first meeting, we will read, discuss, and present works that variously introduce, discuss, critique, and exemplify these sorts of textual practices. We will begin with some orientating works on philology more generally (e.g. the guidebooks of Paul Maas and Martin West; Housman's polemical essays; Timpanaro's study of Lachmann; Turne's recent popular history) and proceed to move into more South Asia specific materials from there, including classics (Sukthankar, Katre, M.R. Kavi) as well as contemporary discussions (Pollock, Alam, Kinra, Phillips-Rodriguez). Big questions will include: in what ways does this constitute a specifically 'scientific' (i.e. transparent, falsifiable) practice of knowledge? What can be said of the institutional motivations for the production of critical editions, in India or elsewhere? Instructor(s): Whitney Cox Terms Offered: Autumn

SALC 48501. Readings in Tibetan Buddhist Texts. 100 Units.

Readings in selected Buddhist doctrinal writings in Tibetan. Instructor(s): Matthew Kapstein Terms Offered: Winter Prerequisite(s): Open to students reading Tibetan at an advanced level. Equivalent Course(s): HREL 48910, DVPR 48910

## SALC 48603. Talking Birds and Cunning Jackals: A Survey of Indo-Persian Prose. 100 Units.

South Asia was a major source of narrative matter for the development of literary prose in the Islamicate world. For instance, literary prose in Arabic, but also in Persian (and Castilian) were fashioned through successive renderings of the Sanskrit Pan#catantra. Later, in the post-Timurid period, South Asian Persianate literati, and munshis in particular, contributed to elevate the status of Persian prose to that of poetry. This course offers a survey of a variety of Indo-Persian prose texts such as tales, premodern translations of Indian romances and epics (Mah#bh#rata, R#m#ya#a, Pan#catantra, M#dhav#nala K#makandal#, etc ...), letters, anecdotes from chronicles, tadhkira literature, autobiographical writings, treatises, and encyclopedic works. The readings are organized thematically and by degree of stylistic elaboration. We will first read plain prose texts that will introduce the students to key elements of the Persianations of Sanskrit and Hindavi works, and d#st#ns). We will then turn to epistolography, biographies, and autobiographical writings. Finally, we will read technical and non-technical texts dealing with various aspects of Indo-Persian courtly culture and aesthetics (philosophy, mysticism, grammar, poetry, or musicology). Each text will be introduced and framed by discussions on relevant secondary literature in English and Persian.

Instructor(s): T. D'Hubert Terms Offered: Autumn Prerequisite(s): Intermediate level of Persian Equivalent Course(s): NEHC 48603, PERS 48693

## SALC 49006. Yogacara. 100 Units.

This seminar, which presupposes a basic knowledge of Indian and/or Tibetan Buddhist philosophy, will consider some of the foundational texts of the Yogacara tradition of thought, with particular reference to the works of Vasubandhu. In addition to close readings of assorted primary sources, we will consider contemporary scholarly debates regarding the interpretation of Yogacara (e.e., concerning the question whether this is aptly characterized as an "idealist" school of thought).

Instructor(s): Dan Arnold Terms Offered: Spring

Prerequisite(s): Some knowledge of Sanskrit or Tibetan is preferred.

Equivalent Course(s): DVPR 51700

# SALC 49301. Asceticism and Civilization. 100 Units.

This course examines the phenomenon of asceticism (it is better to use the Greek word ask#sis) -a disciplined life-style (usually) involving celibacy, lack of individual wealth, obedience to a rule, etc.- in relation to human civilization. How is it that this way of life, which in many ways challenges basic elements of normal social existence, is nonetheless often accorded a central civilizational position and value? In addition to works of theory, material on both men and women ascetics will be investigated, in the Hindu and Jain traditions in India, Buddhism in Southeast Asia, Taiwan, and Japan, Hellenistic and Roman Philosophy, and Christianity and Catharism in Europe.

Instructor(s): S. Collins Terms Offered: Autumn Equivalent Course(s): HREL 49301

# SALC 49630. Madhyamaka in India and China. 100 Units.

This seminar will consider exemplary texts from the Madhyamaka school(s) of Buddhist philosophy, particularly focusing on notable points of divergence and/or concord between the Indian schools with which the tradition originated, and the various Chinese schools that reflect China's distinctive appropriation of the tradition. Instructor(s): Brook Ziporyn and Dan Arnold Terms Offered: Spring Note(s): This course is open to undergrads ONLY by Petition.

Equivalent Course(s): EALC 49630, DVPR 49630

# SALC 49900. Thesis Research. 100 Units.

Instructor(s): Student chooses instructor Terms Offered: Autumn, Winter, Spring

Note(s): Requires consent of instructor

# SALC 50204. Destruction of Images, Books & Artifacts in Europe and S. Asia. 100 Units.

The course offers a comparative perspective on European and South Asian iconoclasm. In the European tradition, iconoclasm was predominantly aimed at images, whereas in South Asian traditions it was also enacted upon books and buildings. The combination of these traditions will allow us to extend the usual understanding of iconoclasm as the destruction of images to a broader phenomenon of destruction of cultural artifacts and help question the theories of image as they have been independently developed in Europe and South Asia, and occasionally in conversation with one another. We will ask how and why, in the context of particular political imaginaries and material cultures, were certain objects singled out for iconoclasm? Also, who was considered to be entitled or authorized to commit their destruction? Through a choice of concrete examples of iconoclasm, we will approach the iconoclastic events in Europe and South Asia through the lenses of philology, history, and material culture. Class discussions will incorporate not only textual materials, but also the close collaborative study of images, objects, and film. Case studies will make use of objects in the Art Institute of Chicago and Special Collections at the University Library.

Equivalent Course(s): RLVC 50204, SCTH 50204, ARTH 40204, CMLT 50204, HREL 50204, CDIN 50204

# SALC 60100. Teaching South Asia. 100 Units.

Teaching South Asia will be a Workshop open to students in their second year of their graduate program or above, who are now or who expect to be teaching any kinds of course in the area(s) of South Asian Studies in the future. It is intended for all students in the University, and will not have a specific Humanities focus. In the past we have discussed actual or draft syllabuses, students have given trial lectures, conference or job talks, we have run mock job interviews, etc. What happens this year will depend on what students want. Students who have attended the workshop before will be allowed to take it again.

Instructor(s): S. Collins Terms Offered: Autumn

Prerequisite(s): Second year as a graduate student or beyond.

# SALC 61805. Colloquium: South Asian Political Thought-A Genealogy. 100 Units.

This course will look at some key texts of the colonial and postcolonial periods of South Asian history to see how the domain of the political has been understood and debated in the subcontinent since the beginning of the twentieth century. Equivalent Course(s): HIST 61805

# SALC 61901. Colloquium: Historical Texts of Hindu Nationalism. 100 Units.

This course will discuss and analyze some classic texts of Hindu nationalism, including those by Vivekananda, Savarkar, Golwalkar, and others.

Instructor(s): D. Chakrabarty and J. Pitts Terms Offered: Spring Equivalent Course(s): HIST 61901, PLSC 61901

## SALC 70000. Advanced Study: South Asian Languages & Civilizations. 300.00 Units.

Advanced Study: South Asian Languages & Civilizations

# Tamil Courses

# TAML 30100-30200-30300. Third-Year Tamil I-II-III.

On the basis of a variety of readings, such as short stories, poems, excerpts from novels or non-fiction, this course addresses those issues of modern written Tamil grammar which have not been covered during the previous two years. Readings are typically selected with a view to providing important cultural information, and they are supplemented by film clips and other media. Class content may be chosen or adapted based on particular student needs. Further work on listening and speaking proficiency is also part of the course. Based on prior consultation with instructor regarding placement, this course might be an appropriate starting point for speakers of Tamil with previous knowledge (e.g., heritage students).

# TAML 30100. Third-Year Tamil I. 100 Units.

TBD

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): TAML 20300 or comparable level of language skills. Prior consent of instructor required.

# TAML 30200. Third-Year Tamil II. 100 Units.

tbd

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): TAML 30100 or comparable level of language skills. Prior consent of instructor required.

# TAML 30300. Third-Year Tamil III. 100 Units.

tbd

Instructor(s): Staff Terms Offered: Spring Prerequisite(s): TAML 30200 or comparable level of language skills. Prior consent of instructor required.

# TAML 40100-40200-40300. Fourth-Year Tamil I-II-III.

This course typically includes an introduction to Classical Tamil grammar and literature, with sample readings reaching from the oldest known Tamil literature (Sangam poetry) via bhakti poems to the magnificent courtly compositions of the high and late medieval periods. Various other types of linguistic variation may also be studied, e.g. inscriptional Tamil or dialects/ regional language registers. Depending on the students' needs, an overview of Tamil literary history is also given. Native or heritage speakers of Tamil are required to have a solid knowledge of modern Tamil grammar.

# TAML 40100. Fourth-Year Tamil I. 100 Units.

TBD

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): TAML 30300 or comparable level of language skills. Prior consent of instructor required.

# TAML 40200. Fourth-Year Tamil II. 100 Units.

tbd

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): TAML 40100 or comparable level of language skills. Prior consent of instructor required.

# TAML 40300. Fourth-Year Tamil III. 100 Units.

tbd

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): TAML 40200 or comparable level of language skills. Prior consent of instructor required.

# TAML 47900-47901-47902. Rdgs: Advanced Tamil; Rdgs: Advanced Tamil II-III.

This course is for students who have successfully completed third- and fourth-year Tamil. It is typically tailored to student needs in terms of the selection of texts to be addressed and discussed. Depending on their interest, students may choose to read Tamil texts from any time period, country or genre. Prior consent of instructor is required.

# TAML 47900. Rdgs: Advanced Tamil. 100 Units.

TBD Instructor(s): Staff Terms Offered: Autumn Prerequisite(s): TAML 40300

# TAML 47901. Rdgs: Advanced Tamil II. 100 Units.

tbd

Instructor(s): S. Ebeling Terms Offered: Winter Prerequisite(s): TAML 47900

# TAML 47902. Rdgs: Advanced Tamil III. 100 Units.

TBD Instructor(s): Staff Terms Offered: Spring Prerequisite(s): TAML 47901

## TAML 47904. The Metrical Language of Tamil Poetry. 100 Units.

This will be a lecture cum workshop. It will trace the history of the prosody used in Tamil literary works from the beginning to the modern from the points of its grammar, development and the demands on it from the emergence of new genres, literary themes and audience. The workshop part will consist of doing prosodic analysis of selected literary works. Instructor(s): E. Annamalai Terms Offered: Winter

# Tibetan Courses

# TBTN 30100-30200-30300. Third-Year Tibetan I-II-III.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods.

## TBTN 30100. Third-Year Tibetan I. 100 Units.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods. Instructor(s): K. Ngodup Terms Offered: Autumn

Prerequisite(s): TBTN 20300 or consent of instructor

## TBTN 30200. Third-Year Tibetan II. 100 Units.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods.

Instructor(s): K. Ngodup Terms Offered: Winter

Prerequisite(s): TBTN 30100 or consent of instructor

#### TBTN 30300. Third-Year Tibetan III. 100 Units.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods. Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): TBTN 30200 or consent of instructor

## TBTN 40100-40200-40300. Fourth-Year Tibetan I-II-III.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods.

# TBTN 40100. Fourth-Year Tibetan I. 100 Units.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): TBTN 30300 or consent of instructor

# TBTN 40200. Fourth-Year Tibetan II. 100 Units.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods. Instructor(s): K. Ngodup Terms Offered: Winter

Prerequisite(s): TBTN 40100 or consent of instructor

#### TBTN 40300. Fourth-Year Tibetan III. 100 Units.

The third- and fourth-year sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction consists in guided readings, with continuing grammar review, practice in speaking, and application of philological methods.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): TBTN 40200 or consent of instructor

# TBTN 47900-47901-47902. Rdgs: Advanced Tibetan I-II-III.

Readings: Advanced Tibetan is for students who have successfully completed third year and fourth year or equivalent with placement test. The sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction includes guided readings with continuing grammar review, practice in speaking, and application of philological methods.

#### TBTN 47900. Readings: Advanced Tibetan I. 100 Units.

Readings: Advanced Tibetan is for students who have successfully completed third year and fourth year or equivalent with placement test. The sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction includes guided readings with continuing grammar review, practice in speaking, and application of philological methods. Instructor(s): K. Ngodup Terms Offered: Autumn

Prerequisite(s): TBTN 40300

# TBTN 47901. Readings: Advanced Tibetan II. 100 Units.

Readings: Advanced Tibetan is for students who have successfully completed third year and fourth year or equivalent with placement test. The sequence is meant to expose students to a range of genres in Tibetan literature, including religious, historical, philosophical, scientific, and literary works. Instruction includes guided readings with continuing grammar review, practice in speaking, and application of philological methods. Instructor(s): K. Ngodup Terms Offered: Winter

Prerequisite(s): TBTN 47900

#### TBTN 47902. Readings: Advanced Tibetan III and Introduction to Buddhist Hybrid Sanskrit. 100 Units.

Complementing the course on Buddhist Poetry in India, we will be reading a celebrated verse scripture, the Prajñ#p#ramit#-ratnagu#a-sañcaya-g#th# ("Verses Gathering the Jewel-like Qualities of the Perfection of Wisdom") in both its Buddhist Hybrid Sanskrit original and its Tibetan translation. (Students are required to have had at least two years of either Sanskrit or Tibetan - it will not be necessary to do both.) Those wishing to take the course for Sanskrit credit should enroll in SALC.

Instructor(s): Matthew Kapstein Terms Offered: Spring

Prerequisite(s): Students must have had two years of Tibetan OR Sanskrit.

Note(s): This course is open to undergrads ONLY by petition.

Equivalent Course(s): SALC 48316, HREL 52402
# Urdu Courses

# URDU 30100-30200-30300. Third-Year Urdu I-II-III.

This third- and fourth-year sequence consists of courses primarily in Urdu prose, meant for students who have already mastered the grammar and control vocabulary past the basic level. The two-year cycle includes passages/selections from noted Urdu writers from the late eighteenth through the twentieth century. The sequence has two major goals. The first goal is to emphasize training in comprehension, reading, writing, philology, and discussion (in Urdu). A second goal is to encourage analysis of the widely acknowledged masters of Urdu style by locating them within the larger context of early modern and modern South Asian social and intellectual history.

# URDU 30100. Third-Year Urdu I. 100 Units.

TBD

Instructor(s): M. Alam Terms Offered: Autumn Prerequisite(s): URDU 20300 or consent of instructor

#### URDU 30200. Third-Year Urdu II. 100 Units.

TRD

Instructor(s): M. Alam Terms Offered: Winter Prerequisite(s): URDU 30100 or consent of instructor

# URDU 30300. Third-Year Urdu III. 100 Units.

TBD Instructor(s): M. Alam Terms Offered: Spring Prerequisite(s): URDU 30200 or consent of instructor

# URDU 37100. Urdu in the 21st Century. 100 Units.

This course is intended to provide continued language teaching beyond the second-year course through reading and analysis of authentic contemporary materials. It differs from the regular third-year class/sequence in that it will focus on contemporary issues and texts (both print and electronic) rather than the literary canon. Readings will be selected by students and the instructor in consultation and will include a variety of genres and subject matter - to be determined by the fields of interest/research of the students enrolled.

Instructor(s): E. Bashir Terms Offered: Autumn

Prerequisite(s): Second year Urdu sequence or its equivalent, and permission of the instructor.

# URDU 37200. Urdu in the 21st Century-2. 100 Units.

# URDU 37300. URDU in the 21st Century. 100 Units.

#### URDU 40100-40200-40300. Fourth-Year Urdu I-II-III.

This third- and fourth-year sequence consists of courses primarily in Urdu prose, meant for students who have already mastered the grammar and control vocabulary past the basic level. The two-year cycle includes passages/selections from noted Urdu writers from the late eighteenth through the twentieth century. The sequence has two major goals. The first goal is to emphasize training in comprehension, reading, writing, philology, and discussion (in Urdu). A second goal is to encourage analysis of the widely acknowledged masters of Urdu style by locating them within the larger context of early modern and modern South Asian social and intellectual history.

#### URDU 40100. Fourth-Year Urdu I. 100 Units.

TRD Instructor(s): M. Alam Prerequisite(s): URDU 30300 or consent of instructor

#### URDU 40200. Fourth-Year Urdu II. 100 Units. TBD

Instructor(s): M. Alam Terms Offered: Winter Prerequisite(s): URDU 40100 or consent of instructor

# URDU 40300. Fourth-Year Urdu III. 100 Units.

TRD Instructor(s): M. Alam Terms Offered: Spring Prerequisite(s): URDU 40200 or consent of instructor

#### URDU 47900-47901-47902. Rdgs: Advanced Urdu I-II-III.

This course is for students who have successfully completed third- and fourth-year Urdu. It is typically tailored to student needs in terms of the selection of texts to be addressed and discussed. Depending on their interest, students may choose to read Urdu texts from any time period, country or genre. Prior consent of instructor is required.

# URDU 47900. Readings: Advanced Urdu I. 100 Units.

This course is for students who have successfully completed third- and fourth-year Urdu. It is typically tailored to student needs in terms of the selection of texts to be addressed and discussed. Depending on their interest, students may choose to read Urdu texts from any time period, country or genre. Prior consent of instructor is required. Instructor(s): M. Alam Terms Offered: Autumn Prerequisite(s): URDU 40300

#### URDU 47901. Readings: Advanced Urdu II. 100 Units.

This course is for students who have successfully completed third- and fourth-year Urdu. It is typically tailored to student needs in terms of the selection of texts to be addressed and discussed. Depending on their interest, students may choose to read Urdu texts from any time period, country or genre. Prior consent of instructor is required. Instructor(s): M. Alam Terms Offered: Winter Prerequisite(s): URDU 47900

# URDU 47902. Readings: Advanced Urdu III. 100 Units.

This course is for students who have successfully completed third- and fourth-year Urdu. It is typically tailored to student needs in terms of the selection of texts to be addressed and discussed. Depending on their interest, students may choose to read Urdu texts from any time period, country or genre. Prior consent of instructor is required. Instructor(s): M. Alam Terms Offered: Spring Prerequisite(s): URDU 47901



# Department of the Visual Arts

Chair

Matthew Jesse Jackson

Professors

- Theaster Gates
- Laura Letinsky, Cinema and Media Studies
- William Pope.L
- Jessica Stockholder

Associate Professors

- Matthew Jesse Jackson, Art History
- Jason Salavon
- Catherine Sullivan

Assistant Professors

- Julia Phillips
- Heather Kai Smith, Harper Schmidt Fellow

Professor of Practice in the Arts

Geof Oppenheimer

Visiting Professor

David Schutter (visiting Winter 2021)

Lecturers

- Chris Bradley
- Bethany Collins
- Katherine Desjardins
- Amber Ginsburg
- Ellie Hogeman
- Nicole Mauser
- Scott Wolniak

Affiliates

- Dominique Bluher, Cinema and Media Studies
- Seth Brodsky, Music
- Bill Brown, English
- Darby English, Art History
- Judy Hoffman, Cinema and Media Studies
- W. J. T. Mitchell, English, Art History
- D.N. Rodowick, Cinema and Media Studies

Emeritus Faculty

- Charles Cohen, Art History
- Herbert George
- Elizabeth Helsinger, English, Art History
- Vera Klement
- Thomas Mapp
- Robert C. Peters

The Department of Visual Arts (DoVA), a department within the Humanities Division at the University of Chicago, and situated in The Reva and David Logan Center for the Arts (http://arts.uchicago.edu/content/logan-center/), is proud to offer a Masters of Fine Arts.

This MFA program is distinguished in its focused attention on understanding how the pluralism of today's art making practices relate to one another and in creating conversations that bridge between DoVA and other areas of study at the

University of Chicago. Our faculty are diverse in their interests, deeply engaged with their own work, and are committed teachers engaged in a lively and sustained dialogue within the department.

Our students work in sculpture, photography, painting, installation, performance, video and new media. Students are admitted to the program based on the quality of the portfolio and the level of interest and capacity in engaging this interdisciplinary program within a university environment. The faculty focus on working with students to develop their own work and enabling them to leave the University with the tools to support a lifetime of art making. As part of this process, the department encourages students to explore not only the artistic issues pertinent to their work, but also the theoretical, social and historical issues that intersect and bracket it.

The MFA is a two-year program (six quarters), comprised of 18 courses. Many of these course credits are earned through the development of individual work in conversation with the faculty.

First and second year students work together to articulate their work and to sharpen their skills of critical thinking and writing. Students come to the program with diverse intellectual, cultural and artistic backgrounds and different art making practices. We all work together to articulate a common language with which to discuss and make art in this critical and supportive community.

As part of the MFA program, DoVA hosts a lively visiting artist program under the auspices of the Open Practice Committee (https://dova.uchicago.edu/opc/) (OPC). In addition the University of Chicago provides an enormously rich intellectual environment full of engaging lectures and workshops in all areas of study. Our students are often interested in events hosted by the Center for Gender Studies, the Center for the Study of Race, Politics, and Culture, the Mass Culture Studies Workshop, the Department of Cinema and Media Studies, and the Department of Art History. The university also offers workshops that focus on professional and pedagogical issues to assist students in preparing for a career in the arts. Please see our website (https://dova.uchicago.edu) for more information.

#### Curriculum

MFA students register for 300 credits (three courses at 100 credits each) per quarter. A total of 1800 credits, or eighteen courses, is required for the degree.

The basic requirements for the MFA are listed below:

#### 1. Graduate Studio Project (9 Courses / 900 Credit Hours)

Students receive course credit for time spent in their studio developing their work. As part of this requirement students will present work to faculty and students for critique regularly throughout the year. Students register for at least 100 credit hours of Graduate Studio Project (ARTV 40000) per quarter, and may register for up to 300 hours per quarter provided that they are on track for meeting their other course requirements (see Graduate Seminars and Electives).

#### 2. Graduate Seminars (3 Courses / 300 Credit Hours)

In order to provide a core of common intellectual experience, all students are required to take three quarters of the Graduate Seminar in Visual Arts (ARTV 39200) during their first year. The content of these seminars varies with instructors, but may focus on many different issues in contemporary theory and criticism.

## 3. Electives (6 Courses / 600 Credit Hours)

Students are required to take six graduate-level electives. At least three of the six electives must either be academic (i.e. non-studio based) or originate in departments outside of DoVA.

#### 4. Thesis Presentation

In the fall quarter of the second year, each student will work with a committee of two faculty members who assist in the preparation of the thesis work. In the final quarter of the program each degree candidate presents studio work in an MFA exhibition. In addition to this exhibition, students will be expected to submit a short but focused written abstract of their work.

#### 5. Standards Of Performance

Each graduate student must maintain high standards of engagement and achievement in studio and academic performance, including evidence of substantial growth in their work.

For additional information, please email dova@uchicago.edu or visit our website. (http://dova.uchicago.edu/)

#### How to Apply

The application process for admission and financial aid for all graduate programs in the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/ admissions.html (http://humanities.uchicago.edu/students/admissions/).

Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website (https://internationalaffairs.uchicago.edu/), or call them at (773) 702-7752.

Additional information about financial aid and the admissions process can be found on the DoVA website (http:// dova.uchicago.edu/graduate/).

#### Visual Arts Courses

# ARTV 30008. Ways of Curating and Collecting. 100 Units.

This seminar takes stock of contemporary currents in curating and collecting practices at a time when we are experiencing rapid expansion of the museum sector internationally, and witnessing the growing ubiquity of 'curation' within the spheres of leisure, culture, entertainment and tourism. Using institutions across campus, the city of Chicago and beyond as our primary locus, we will explore curatorial and collecting strategies employed by a variety of visual arts institutions and platforms from the scale of the single-room/single curator gallery, to the museum and the international biennial. We will consider how curatorial and exhibition-making practices have evolved from the latter half of the 20th century to the present day. We will consider the socio-cultural and political implications of curatorial work, and reflect on the shifting status of the art object within collecting and non-collecting institutions. Together we will explore significant curatorial projects at a local, national and international level; we will undertake site visits as well as play host to visiting curators, artists and thinkers. Course readings will feature the writings of seminal international curators as well as selections from historians and theorists in the field of curatorial studies. Students will work through a series of independent and collaborative assignments as well as a final project that integrates curatorial theory and practice.

Instructor(s): Y. Umolu Terms Offered: Winter

Equivalent Course(s): ARTH 36110, ARTV 20008, ARTH 26110

#### ARTV 30019. Topics in Painting. 100 Units.

Discussion based seminar on issues in contemporary and historical painting. Seminar format open to DoVA majors and minors, DoVA MFAs, and MA students in MAPH. This class can be counted as a studio class toward the DoVA major or minor with consent of instructor.

Instructor(s): D. Schutter Terms Offered: Autumn Equivalent Course(s): ARTV 20019

#### ARTV 30140. Aesthetic Ecologies. 100 Units.

What would an intellectual history of the environment look like when told from the perspective of the literature of art history? The geographer Friedrich Ratzel, who first began using the term 'Umwelt' ('environment') in a systematic way, claimed that, up to the end of the 19th century, the idea of environment had been primarily discussed not in scientific contexts but rather in aesthetic ones, by 'artistically predisposed thinkers.' In this course, we will take Ratzel's claim seriously and aim to recuperate the aesthetic side of theories of environment across diverse areas such as: notions of landscape ('the picturesque'); aesthetic and biological theories of milieu (Haeckel's 'ecology,' Taine's 'milieu,' Uexküll's 'Umweltlehre'); Warburg's cultural history; the 'sculpture of environment' (Boccioni); the 'space-body' in modern dance (Laban); artworks-as-environments in spatial installations. This course is about artworks that continue beyond their material confines into the space environing them. We will focus on evocations of air as the material space surrounding an artwork in texts that thematize the continuity between artwork as image and material object. Additional materials include: J.W. v. Goethe, Jacob Burckhardt, Carl Justi, Adolf v. Hildebrand, Camillo Sitte, Alois Riegl, R.M. Rilke, M. Heidegger, and others. Instructor(s): Margareta Ingrid Christian Terms Offered: Spring

Prerequisite(s): Open to all students. MAPH students welcome. Interested undergraduates please email instructor:michristian@uchicago.edu.

Equivalent Course(s): GRMN 35140

# ARTV 30805. Framing, Re-framing, and Un-framing Cinema. 100 Units.

By cinema, we mean the art of the moving image, which is not limited to the material support of a flexible band called film. This art reaches back to early devices to trick the eye into seeing motion and looks forward to new media and new modes of presentation. With the technological possibility of breaking images into tiny pixels and reassembling them and of viewing them in new way that this computerized image allows, we now face the most radical transformation of the moving image since the very beginnings of cinema. A collaboration between the OpenEndedGroup (Marc Downie and Paul Kaiser), artists who have created new modes of the moving image for more than decade, and film scholar Tom Gunning, this course will use this moment of new technologies to explore and expand the moving image before it becomes too rigidly determined by the powerful industrial forces now propelling it forward. This course will be intensely experimental as we see how we might use new computer algorithms to take apart and re-experience classic films of the past. By using new tools, developed for and during this class, students will make new experiences inside virtual reality environments for watching, analyzing, and recombining films and that are unlike any other. These tools will enable students, regardless of previous programming experience, to participate in this crucial technological and cultural juncture.

Equivalent Course(s): ARTV 20805, CMST 27805, CMST 37805

### ARTV 31002. Life Drawing. 100 Units.

This course is designed to introduce the student to observational drawing of the human figure. The subject of the course will be the live nude model. The object of the course is to see through proportions and the anatomy of the human body and draw out a likeness, rendering present the body as seen in its materiality, its structure, its finitude. Lectures on anatomy and the history of drawing will be ongoing and stitched into this studio course, as will the critique of drawings generated in class. Instructor(s): D. Schutter Terms Offered: Winter

Prerequisite(s): ARTV 10100, 10200 or 10300

Equivalent Course(s): ARTV 21002

# ARTV 31007. Drawing the Anthropocene. 100 Units.

The anthropocene is linked to the concept of acceleration through human intervention that alters our systems on a planetary scale. Acceleration accurately connotes the pace of radical behavioral and political shifts we are experiencing from Covid-19 and our current political uprising. Looking at these instances of quick change allows us to examine anthropogenic shifts as right here in our everyday lives. This course takes walking as a measure of inquiry into anthropogenic change as intimate, experienced through the body and space, not way-out-there, but all around us, and uses art as a measure that releases us from the strictly empirical to include the somatic, emotional, philosophical, lyrical, and the humorous. Drawing is a haptic practice, through the hand, that can represent people and things, real and imagined, as well as a method to create a plan or sketch. Taking walking as a point of departure, and using the GPS in our phones, we will begin to draw lines of connection between what is beneath our feet, around us, and above, to make connections between the abstraction of the anthropocene and our lived lives. While drawing is a component of this course, drawing is also engaged as a metaphor, to draw up, to draw out, to illustrate, demonstrate and give form. This class with work towards three artworks/propositions loosely categorized as, the biological, the political and the geological.

Instructor(s): A. Ginsburg Terms Offered: Autumn Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 21007

# ARTV 31008. Outside: An Archival Impulse. 100 Units.

In 'An Archival Impulse,' Hal Foster describes the archive as 'found yet constructed, factual yet fictive, public yet private.' Foster's set of tangled binaries provides a foundation on which to build a formal and critical inquiry into the impulses of archiving and the production of archive-driven artwork. What is preserved and what is not is inherently political. Taking to the streets, we will look closely at the flora and fauna and what we term physical and cultural as sites of collection to then sort, instrumentalizing the impulse to preserve as a tool to frame what we have termed outside. Classes will be divided between mapped walks, site visits, dérives (drifts) and online discussions of readings, artist presentations, and technical instruction that supports projects. All projects will be presented digitally or out of doors. During this three week intensive course, we will produce three artworks/propositions. Taking up an archival strategy, we will produce a project. Thereafter, the subsequent projects will pivot, take a new form and new content based on an adaptation from the ideas in the readings. The suite of three works will not necessarily form a whole, rather a prism from which to unpack and explore the world around us.

Instructor(s): A. Ginsburg Terms Offered: Autumn Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 21008

#### ARTV 31501. Introduction to Printmaking. 100 Units.

An introduction to basic printmaking techniques, including monoprint, intaglio (drypoint), planographic, and relief printing. Printmaking will be explored as a 'bridge medium': a conduit between drawing, painting, and sculpture. Emphasis will be placed upon investigating visual structures through 'calculated spontaneity' and 'controlled accidents,' as well as on the serial potential inherent in printmaking, as opposed to the strictly technical aspects of this medium. Instructor(s): K. Desjardins Terms Offered: Spring

Prerequisite(s): ARTV 10100, 10200, or 10300 Equivalent Course(s): ARTV 21501

# ARTV 31502. Advanced Printmaking. 100 Units.

ARTV 21501 is required as a prerequisite. Course description coming soon. Instructor(s): K. Desjardins Terms Offered: Spring Prerequisite(s): ARTV 10100, 10200 or 10300 and ARTV 21501 Equivalent Course(s): ARTV 21502

#### ARTV 31702. Drawing Concepts. 100 Units.

This course will focus on expanding the definition and practice of drawing. Studio work will engage traditional, spatial and process-oriented mark making in order to materialize thematically driven projects. Emphasis will be placed equally on the formal concerns of subject, material, and technique as well as the ability to effectively convey one's concept. Projects will include weekly and longer-term assignments, in addition to critique. Participation in field trips is required. Instructor(s): B. Collins Terms Offered: Winter

Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 21702

### ARTV 31800. Studio Practice. 100 Units.

This course considers a variety of methods, processes and media to explore conceptual issues pertinent to a contemporary art practice. Through research, material investigation, experimentation and revision, students will develop their own approach to a daily self-directed practice. Projects will include weekly and longer-term assignments, individual and collaborative work. We will also look at the practices of established artists for possible models. Participation in several field trips is required. Instructor(s): B. Collins Terms Offered: Autumn

Prerequisite(s): ARTV 10100, 10200 or 10300

Equivalent Course(s): ARTV 21800

# ARTV 31902. Color: Theory and Experience. 100 Units.

This studio course proposes a hands-on investigation into the way we experience color in the world and in our own work. We will study a range of approaches to color, including: 'haptic' color perception, Symbolic/Spiritual color theories, as well as more widely known theories of 'optical color.' In the studio, you will be introduced to a unique series of exercises that elucidate the expressive, symbolic, scientific, and cultural aspects of color perception using both acrylic pigment and light. Lectures, field trips, and guest speakers will broaden our discussion of color. A final project in a medium of your choice will serve as a culminating experience for the course.

Instructor(s): K. Desjardins Terms Offered: Winter Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 21902

#### ARTV 32000. Introduction to Sculpture. 100 Units.

This course introduces the technical fundamentals of sculptural practice. Using basic introductions to welding, basic woodworking and metal fabrication students will undertake assignments designed to deploy these new skills conceptually in their projects. Lectures and reading introduce the technical focus of the class in various historical, social and economic contexts. Discussions and gallery visits help engender an understanding of sculpture within a larger societal and historical context.

Instructor(s): C. Bradley Terms Offered: Winter Prerequisite(s): ARTV 10100, 10200, or 10300. Equivalent Course(s): ARTV 22200

#### ARTV 32200-32202. Introduction to Painting I-II.

This studio course introduces students to the fundamental elements of painting (its language and methodologies) as they learn how to initiate and develop an individualized investigation into subject matter and meaning. This course emphasizes group critiques and discussion. Courses taught concurrently.

#### ARTV 32200. Introduction to Painting I. 100 Units.

This studio course introduces students to the fundamental elements of painting (its language and methodologies) as they learn how to initiate and develop an individualized investigation into subject matter and meaning. This course emphasizes group critiques and discussion. Terms Offered: Winter

Equivalent Course(s): ARTV 22000

# ARTV 32202. Introduction to Painting II. 100 Units.

No description available Terms Offered: Winter Equivalent Course(s): ARTV 22002

#### ARTV 32304. Ceramics: Image and Form. 100 Units.

Ceramics and painting have a long connected history. In Natural History (77-79 AD), Pliny the Elder attempts to trace the history of portraiture. Butades the potter, brokenhearted at the departure of his soon-to-be-married daughter, catches a glimpse of her profile on the wall from the reflection cast by a candle and traces the outline with some clay. In the retelling of this narrative, this act of doubling is attributed, variously, to the origin of portrait painting and to the origin of the portrait modeling, depending on the focus of the outline as an act done by a brush or the plastic actions of filling in the trace. While historically apocryphal, this account captures the historical dance between ceramics as a surface for painting and material to form shape. In this course, you will bring surface and form together to create a space and site of content. While using the inherently plastic nature of clay to create shape, the workshop format of this course will instrumentalize the surface to test and play with color and line. Thinking of ceramics as a flexible surface for archival paint, also known as glaze, this studio course will test glazes, oxides, decals, and multi-fired surfaces. Assignments will be geared towards experimental results that allow students to further their own interests and practices.

Instructor(s): A. Ginsburg Terms Offered: Spring Prerequisite(s): ARTV 10100, 10200, or 10300 Equivalent Course(s): ARTV 22304

### ARTV 32305. Performing Tableware. 100 Units.

Performing Tableware takes the actions and objects of the table as a site of research. Through demonstrations, readings and production, tableware will be considered in the context of contemporary practices in design, sculpture, installation and performance. Materially rooted in ceramics, this course gives students the opportunity to highlight, interrupt or subvert the patterns associated with sitting around table. Developing projects through a process of questioning behavior and the intimate functions of objects of the table, students will extend and challenge their material knowledge and engage in a range of ceramic processes including using raw clay, slip casting, hand building, slab building and multi-fire glaze processes. Instructor(s): A. Ginsburg Terms Offered: Winter

Prerequisite(s): ARTV 10100, 10200, or 10300 Equivalent Course(s): ARTV 22305

#### ARTV 32312. Material as Performance. 100 Units.

This course delves into the use and practices around a broad range of materials and focuses on the intersection between culture, habit and performance. By examining the histories of specific materials in our present moment, during a time when we know that materials and resources are finite, we will think through our patterns and speculate on interactions with materials in the future. Materials offer us the opportunity to examine history through the lens of performance, questioning who and what is included in the these histories, all the while interrogating the inherent humantic lens. This studio course will be iterative, working towards large scale final projects.

Instructor(s): A. Ginsburg Terms Offered: Winter Prerequisite(s): ARTV 10100, 10200 or 10300

Equivalent Course(s): ARTV 22312

# ARTV 32317. Intuitive Form. 100 Units.

Taking the Rorschach Test as a point of departure, students will learn how to associate based on the 'intuitive forms' they create serving as the 'ambiguous stimulus'. Learning perspective is to produce quickly and intuitively in two 'immediate' materials: unfired clay and drawing. The making will take place in class as exercises, and most materials will be recycled to underline the focus on process instead of product. There will be short lectures throughout the quarter to discuss methods of association'. There will be written assignments and I am planning to invite a guest visitor from the Psychoanalytic Institute of Chicago.

Instructor(s): J. Phillips Terms Offered: Spring Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 22317

# ARTV 32500. Computational Imaging. 100 Units.

This studio course introduces fundamental tools and concepts used in the production of computer-mediated artwork. Instruction includes a survey of standard digital imaging software and hardware (i.e., Photoshop, scanners, storage, printing, etc.), as well as exposure to more sophisticated methods. We also view and discuss the historical precedents and current practice of media art. Using input and output hardware, students complete conceptually driven projects emphasizing personal direction while gaining core digital knowledge.

Instructor(s): J. Salavon Terms Offered: Winter

Prerequisite(s): ARTV 10100, 10200, or 10300

Equivalent Course(s): ARTV 22500, CMST 28800, MAAD 22500

#### ARTV 32501. Art & Machine Intelligence. 100 Units.

Artists have long used autonomous processes to aid in the creation of their work. From 18th century parlor games to contemporary visual culture, creators have applied stochastic methods, automation, and simulation to generate music, text, and imagery. In the last five years, as machine learning has matured into broadly applicable artificial intelligence, artists have turned towards neural networks as a new frontier for creative practice. This studio course will explore the history and uses of autonomous creative tools and focus, more specifically, on leading edge artistic applications of AI. Students will receive exposure to a breadth of methods in this domain and produce multiple projects engaged with these topics. Software development experience is not required, though it may be useful.

Instructor(s): J. Salavon Terms Offered: Spring Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): MAAD 25201, ARTV 22501

# ARTV 33801. Video. 100 Units.

This is a production course geared towards short experimental works and video within a studio art context. Instructor(s): S. Wolniak Terms Offered: Autumn Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 23801, MAAD 23801

# ARTV 33804. Experimental Animation: Exploring Manual Techniques. 100 Units.

Individually directed video shorts will be produced in this intensive studio course. Experimental and improvised approaches to animation and motion picture art will focus on analog and material techniques, with basic digital post-production also being introduced. Early and experimental cinema, puppetry and contemporary low-tech animation will be presented as formal and technical examples.

Instructor(s): S. Wolniak Terms Offered: Spring Prerequisite(s): ARTV 10100, 10200, or 10300 Equivalent Course(s): ARTV 23804, MAAD 23804

# ARTV 33900. Drawing. 100 Units.

This intensive multilevel studio course is dedicated to investigations of genre, technique, and format in relation to subject matter and individual expression. Guided and self-directed experiments are used to develop visual work within conceptual and thematic frameworks. Art historical examples and contemporary strategies in two-dimensional art are presented as models. Students are expected to produce a body of work consisting of studies, sketches, and finished projects in a range of scales and materials. Classes are dedicated to studio work, lectures, critiques, and field trips.

Instructor(s): B. Collins Terms Offered: Autumn Prerequisite(s): ARTV 10100, 10200, or 10300

Equivalent Course(s): ARTV 23900

# ARTV 33920. Drawing II: Exploded Drawing. 100 Units.

This intensive studio course will explore wide-ranging strategies in drawing and two-dimensional composition. Interrogating conventions of representation and pictorial space, students will develop new formal and conceptual possibilities that relate to the complexities and changing perspectives of contemporary life. Drawing will be addressed as an expansive, open-ended outlet for thought and action. Emphasis will be on innovation within the fundamental structures of the medium, including its history, materials, and techniques.

Instructor(s): S. Wolniak Terms Offered: Winter Prerequisite(s): ARTV 10100, 10200, or 10300 Equivalent Course(s): ARTV 23920

#### ARTV 33930. Documentary Production I. 100 Units.

Documentary Video Production focuses on the making of independent documentary video. Examples of various modes of documentary production will be screened and discussed. Issues embedded in the genre, such as the ethics, the politics of representation, and the shifting lines between 'the real' and 'fiction' will be explored. Story development, pre-production strategies, and production techniques will be our focus, in particular-research, relationships, the camera, interviews and sound recording, shooting in available light, working in crews, and post-production editing. Students will work in crews and be expected to purchase a portable hard drive. A five-minute string-out/rough-cut will be screened at the end of the quarter. Students are strongly encouraged to take Doc Production 2 to complete their work.

Instructor(s): J. Hoffman Terms Offered: Autumn

Note(s): Prior or concurrent enrollment in CMST 10100 recommended for undergraduate students. Equivalent Course(s): ARTV 23930, MAAD 23930, HMRT 25106, HMRT 35106, CMST 23930, CMST 33930

# ARTV 33931. Documentary Production II. 100 Units.

Documentary Video Production II focuses on the shaping and crafting of a non-Fiction video. Enrollment will be limited to those students who have taken Documentary Production I. The class will discuss issues of ethics, power, and representation in this most philosophical and problematic of genres. Students will be expected to write a treatment outline detailing their project and learn about granting agencies and budgeting. Production techniques will concentrate on the language of handheld camera versus tripod, interview methodologies, microphone placement including working with wireless systems and mixers, and lighting for the interview. Post-production will cover editing techniques including color correction and audio sweetening, how to prepare for exhibition, and distribution strategies.

Instructor(s): J. Hoffman Terms Offered: Winter

Prerequisite(s): CMST 23930, HMRT 25106, or ARTV 23930

Equivalent Course(s): CMST 23931, CMST 33931, HMRT 25107, ARTV 23931, MAAD 23931, HMRT 35107

#### ARTV 34000. Introduction to Black and White Film Photography. 100 Units.

Photography is a familiar medium due to its ubiquitous presence in our visual world, including popular culture and personal usage. In this course, students learn technical procedures and basic skills related to the 35mm camera, black and white film, and print development. They also begin to establish criteria for artistic expression. We investigate photography in relation to its historical and social context in order to more consciously engage the photograph's communicative and expressive possibilities. Course work culminates in a portfolio of works exemplary of the student's understanding of the medium. Field trips required.

Instructor(s): E. Hogeman Terms Offered: Autumn Spring

Prerequisite(s): ARTV 10100, 10200 or 10300.

Note(s): Students need their own 35mm film camera. Some film and paper are provided, but students need to purchase additional supplies. More details will be provided on the first day of class and on Canvas. Equivalent Course(s): ARTV 24000

#### ARTV 34004. Introduction to Color Photography. 100 Units.

Photography is a familiar medium due to its ubiquitous presence in our visual world, including popular culture and personal usage. We all have photographic habits and ample experience taking and consuming images. In this course, we will use photography as a means toward developing an aesthetic and theoretical language for creating art. Through readings, slideshows, and discussions, we will investigate color photography in relation to its historical and social context in order to more consciously engage the contemporary photograph's communicative and expressive possibilities. Students will be given constraint-driven assignments to help them unpack their habits and develop an understanding of the principles of photography and color editing workflows. Students are recommended to have their own DSLR camera with manual settings, but all camera formats are welcome.

Instructor(s): E. Hogeman Terms Offered: Autumn Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 24004

#### ARTV 34112. Advanced Problems in Sculpture. 100 Units.

This course is open to all manifestations of sculptural practice broadly defined, including performance and film/video. A particular focus of the course will be considering issues of presence/the index, material histories, economic determination, and societal legibility. Readings on sculptural history from the 19th through the 21st century will be used to illuminate contemporary concerns and issues.

Instructor(s): G. Oppenheimer Terms Offered: Winter

Prerequisite(s): ARTV 10100, 10200 or 10300 and ARTV 22200 or consent of instructor. Equivalent Course(s): ARTV 24112

# ARTV 34122. Diasporic Practices in Contemporary Art. 100 Units.

The class will examine various phenomena of 'Diasporic Practices in Contemporary Art', such as fragmented histories, the question of origin(ality), the limits of translation, social belonging and 'the chosen family', and (over-)representation of origin. In class we will discuss readings by (a.o.) Grada Kilomba, Adrian Piper, Éduard Glissant, Langston Hughes, Trinh T. Minh-ha, and Hito Steyerl. Students will be asked to present on contemporary artists highlighting their diasporic strategies, while also producing creative works through assignments that employ diasporic strategies and that will be discussed in class. Instructor(s): J. Phillips Terms Offered: Autumn

Prerequisite(s): ARTV 10100, 10200 or 10300

Note(s): Please email Julia Phillips juliaphillips@uchicago.edu with a brief description of how your work relates to a diasporic experience and/or your personal investment in the subject (150-300 words).

Equivalent Course(s): ARTH 24122, GNSE 38122, GNSE 28122, CRES 24122, ARTV 24122

# ARTV 34201. Collage. 100 Units.

This studio course explores collage as a means for developing content and examining complex cultural and material relationships. Projects and assigned texts outline the history of collage as a dynamic art form with a strong political dimension, as well as critically addressing how it is being used today.

Instructor(s): S. Wolniak Terms Offered: Autumn

Prerequisite(s): ARTV 10100, 10200, or 10300

Equivalent Course(s): ARTV 24201

# ARTV 34265. Best in Show: Art History as Exhibition History. 100 Units.

In this course, I propose a reading of post-war art history as seen, in part,through the periodical prism of one of the field's most important, signature events - the five-yearly Documenta exhibition in Kassel, Germany. Starting with the founding 1955 edition organized by Arnold Bode and ending with the 2017 edition which I worked on as a curator, we will discuss one chapter of Documenta's history per class alongside related events like the Venice and Sao Paulo biennials and Skulptur. Projekte Münster, touching upon such key issues of contemporary art practice and theory as the dynamics of globalization, identity politics, the vagaries of market influence, history and memory and the pressures of the social realm on aesthetic experience. As a history of exhibition making and curatorial practice, the course will also draw on recent developments in museum culture and the everyday politics of the art world's various institutions, and will be recounted in part from the perspective of exhibition-making experience. The class will consist of hands-on curatorial exercises, as well as writing and reading assignments that mirror and follow the 64-year arc of our historical periodization.

Instructor(s): D. Roelstraete Terms Offered: Spring

Note(s): Students must attend first section to confirm enrollment. Equivalent Course(s): ARTH 26791, ARTH 36791, ARTV 24265

#### ARTV 34301. Writing for Performance. 100 Units.

This course is an exploration of select texts for performance written by performance artists primarily but not entirely operating within the context of art. Via historical context and literary technique, students read, discuss, and analyze texts by various authors spanning the history of performance art: Hugo Ball, John Cage, Richard Foreman, Carolee Schneeman, Joseph Beuys, Karen Finley, Nature Theater of Oklahoma, John Leguizamo, and create and perform their own writing. Field trips and attendance at first class are required.

Instructor(s): Pope.L Terms Offered: Autumn

Prerequisite(s): ARTV 10100, 10200, or 10300

Equivalent Course(s): TAPS 28414, ARTV 24301

## ARTV 34403. Advanced Photography. 100 Units.

The goal of this course is to develop students' investigations and explorations in photography, building on beginning level experience and basic facility with this medium. Students pursue a line of artistic inquiry by participating in a process that involves experimentation, reading, gallery visits, critiques, and discussions, but mostly by producing images. Primary emphasis is placed upon the visual articulation of the ideas of students through their work, as well as the verbal expression of their ideas in class discussions, critiques, and artist's statements. As a vital component of articulating ideas and inquiry, students will refine their skills, e.g., black and white or color printing, medium or large format camera usage, or experimenting with light-sensitive materials.

Instructor(s): E. Hogeman Terms Offered: Spring Prerequisite(s): ARTV 10100, 10200, or 10300; and 24000. Note(s): Camera and light meter required. Equivalent Course(s): ARTV 24403

#### ARTV 34550. Shopcraft: Methods and Materials. 100 Units.

Designed as a complementary course to the DOVA sculpture sequence, Shopcraft explores the tools and techniques available to students in the wood shop. Topics covered include shop safety; the properties of woods; the planning and material selection process for sculpture, furniture, and other woodworking applications; the care and use of hand tools; and interpreting and creating scale drawings and conceptual plans. A series of small projects designed to challenge and expand students' design, drafting, and woodworking skills are assigned. In addition, students are invited to incorporate projects from sculpture classes or their individual studio practice into the course.

Instructor(s): D. Wolf Terms Offered: Autumn Prerequisite(s): ARTV 10100, 10200, or 10300

Equivalent Course(s): ARTV 24550

# ARTV 34703. Mixed-Media Drawing: From Object to Concept. 100 Units.

An object of your choice will serve as a departure point for this process-oriented studio course that takes you through a sequenced exploration of a variety of mixed media drawing materials, methods, and approaches: from observation to abstraction-to the purely conceptual. Readings, critical writing, and discussion are intended to reinforce fluidity between theory, your ideas, and your art practice. This course is augmented by an image bank and gallery visits. Prerequisite(s): ARTV 10100, 10200, or 10300 Note(s): Open to all levels of experience.

Instructor(s): K. Desjardins Terms Offered: Autumn Prerequisite(s): ARTV 10100, 10200, or 10300 Note(s): Open to all levels of experience. Equivalent Course(s): ARTV 24703

# ARTV 34707. Landscape Record. 100 Units.

Course description coming soon.

Instructor(s): S. Wolniak Terms Offered: Winter Prerequisite(s): ARTV 10100, 10200, or 10300 Equivalent Course(s): ARTV 24707

# ARTV 36206. Revised Ecologies for the Black Image. 100 Units.

A team-taught course with artist, Theaster Gates and art historian, Romi Crawford, 'Valuations, Economies, and Revised Ecologies for the Black Image,' is an investigation and inquiry into the challenges around black photographic image production. The course will require students to both examine and produce (on their own and with the faculty) strategies for making and interpreting contemporary art-- based on the urgent economic and affective needs (often obfuscated) of black photographic archives. Organized around practicums of research and making, students will be required to conduct interviews with artists and/or produce art works in collaboration with living artists and photographers. The course will allow students to work with faculty on producing outcomes in areas such as intergenerational collaboration, archival based art making, and 'service oriented' art history; or one that pays attention to the affective realm of (often) very basic needs and desires of the black and minoritized artist. With students we will develop a process and method for locating and responding to these needs as an actionable part of art historical research and scholarship.

Instructor(s): R. Crawford, T. Gates Terms Offered: Autumn

Note(s): Students who wish to join Revised Ecologies for the Black Image should send a paragraph describing their interest in the topic to felicial@uchicago.edu. Graduate students and fourth-year undergraduates are especially encouraged to apply. Equivalent Course(s): ARTV 26206, PPHA 36206, CRES 26210

#### ARTV 36210. XCAP: Food for Thought. 100 Units.

If anthropology and contemporary art have one thing in common, it is the aim to de-familiarize taken-for-granted ways of being in the world by means of ethnographic comparison or aesthetic provocation so as to open up new perspectives on the complexities of human social life. Co-taught by an artist and an anthropologist, this course considers what's at stake when contemporary artists build on this longstanding practice to explore the complexities of current societal, political, and cultural contexts

Instructor(s): Laura Letinsky & Stephan Palmié Terms Offered: Autumn

Note(s): for 3rd and 4th year students only

Equivalent Course(s): CMST 36210, ARTV 26210, ANTH 35315, KNOW 29942, CMST 26210, ARTH 29942, ANTH 25315

# ARTV 36215. Comedy Central 2: The Body's Genres. 100 Units.

The story of comedy from the classics on focuses on the comedic as a weapon, as play that disrupts communication, and as a scene of moral revelation. This course will take up those relations, but begins with the body. We will focus on the plastic, corporeal, affective, and psychodramatic dynamics of the comedic. So much so, in fact, that we're calling it a studio seminar: it will involve actively participating in exercises adapted from the somatic arts, contemporary dance, music, theatre and contemporary comedy and developing new ones. Recognizing that bodies are as much created by movement as engendering it, and recognizing that the comedic is a register for translating the impact of other bodies including the world's body, the course will partition 'the body' into focal themes such as: scale/gesture, the vocal grotesque/irony, movement/interruption, trauma/repair, slapstick/satire, ritual/convention, spontaneity/improvisation; cognitive laughter/belly laughter. Readings will include texts by Linda Williams, Erving Goffman, J.L. Moreno, Elias Canetti, Moshe Feldenkrais, Steve Paxton, Mikhail Bakhtin, Mae West, Jerry Lewis and Fred Moten. Students will contribute their own choices to an exploration of individual performances by Buster Keaton, Louise Lasser, Eleo Pomare, Phyllis Diller, Jackie 'Moms' Mabley, and Jerrod Carmichael. Instructor(s): L. Berlant, C. Sullivan Terms Offered: Autumn

Equivalent Course(s): ENGL 36407, TAPS 36215

# ARTV 36219. Art and the Active Instrument. 100 Units.

Course description coming soon. Instructor(s): G. Oppenheimer Terms Offered: Winter Prerequisite(s): ARTV 10100, 10200 or 10300 Equivalent Course(s): ARTV 26219

# ARTV 37200. Painting. 100 Units.

Presuming fundamental considerations, this studio course emphasizes the purposeful and sustained development of a student's visual investigation through painting, accentuating both invention and clarity of image. Requirements include group critiques and discussion.

Instructor(s): S. Wolniak Terms Offered: Spring Prerequisite(s): ARTV 10100, 10200, or 10300; and 22000 or 22002 Equivalent Course(s): ARTV 27200

# ARTV 37204. Painting Matters: En Plein Air. 100 Units.

Some prior painting experience is required. This studio aims to support the development of a student's personal visual investigation through painting, while also challenging habits of thought and making. We will ask questions about form, content, and context with words and with paint. Participation in group critiques, discussion, and one or two field trips will be required.

Instructor(s): J. Stockholder Terms Offered: Autumn

Prerequisite(s): PQ: ARTV 10100, 10200 or 10300 and some prior experience in painting. Basic supplies for the class will be provided, but students may wish to purchase additional supplies. More information will be provided on the first day of class.

Equivalent Course(s): ARTV 27204

# ARTV 37911. Art and Public Life. 100 Units.

The aim of this seminar-colloquium will be to work through some of the most advanced thinking on ideas about publics and their relation to questions of community, politics, society, culture, and the arts. From John Dewey through Hannah Arendt and Jurgen Habermas, the notion of the public has remained central to a wide variety of debates in the humanities and social sciences. What is a public? How are publics constituted? What is the role of real and virtual space, architectural design, urban planning, and technical media, in the formation of publics? And, most centrally for our purposes, what role can and do the arts play in the emergence of various kinds of publics? The colloquium aspect of the course will involve visiting speakers from a variety of disciplines, both from the University of Chicago faculty, and from elsewhere.

Instructor(s): W.J.T. Mitchell, T. Gates Terms Offered: Autumn Equivalent Course(s): CMST 37802, ENGL 32821, ARTH 47911, MUSI 35014

# ARTV 37920. Virtual Reality Production. 100 Units.

Focusing on experimental moving-image approaches at a crucial moment in the emerging medium of virtual reality, this class will explore and interrogate each stage of production for VR. By hacking their way around the barriers and conventions of current software and hardware to create new optical experiences, students will design, construct and deploy new ways of capturing the world with cameras and develop new strategies and interactive logics for placing images into virtual spaces. Underpinning these explorations will be a careful discussion, dissection and reconstruction of techniques found in the emerging VR 'canon' that spans new modes of journalism and documentary, computer games, and narrative 'VR cinema.' Film production and computer programming experience is welcome but not a prerequisite for the course. Students will be expected to complete short 'sketches' of approaches in VR towards a final short VR experience. Instructor(s): M.Downie Terms Offered: Spring

Note(s): Film production and computer programming experience is welcome but not a prerequisite for the course. Students will be expected to complete short 'sketches' of approaches in VR towards a final short VR experience. Equivalent Course(s): CMST 27920, ARTV 27920, MAAD 24920, CMST 37920

#### ARTV 37921. Augmented Reality Production. 100 Units.

Focusing on experimental moving-image approaches at a crucial moment in the emerging medium of augmented reality, this class will explore and interrogate each stage of production of AR works. Students in this production-based class will examine the techniques and opportunities of this new kind of moving image. During this class we'll study the construction of examples across a gamut from locative media, journalism, and gameplay-based works to museum installations. Students will complete a series of critical essays and sketches towards a final augmented reality project using a custom set of software tools developed in and for the class.

Instructor(s): M. Downie Terms Offered: Winter

Equivalent Course(s): CMST 37911, CMST 27911, MAAD 22911, ARTV 27921

# ARTV 37923. Experimental Captures. 100 Units.

This production-based class will explore the possibilities and limits of capturing the world with imaging approaches that go beyond the conventional camera. What new and experimental image-based artworks can be created with technologies such as laser scanning, structured light projection, time of flight cameras, photogrammetry, stereography, motion capture, sensor augmented cameras or light field photography? This hands-on course welcomes students with production experience while being designed to keep established tools and commercial practices off-kilter and constantly in question.

Instructor(s): M. Downie Terms Offered: Autumn

Equivalent Course(s): ARTV 27923, CMST 37011, CMST 27011, MAAD 21011

### ARTV 39700. Independent Study in Visual Arts. 100-300 Units.

Students in this course should have already done fundamental course work and be ready to explore a particular area of interest much more closely.

Instructor(s): Staff Terms Offered: Autumn Spring Winter

# ARTV 39901. 21st Century Art. 100 Units.

This course will consider the practice and theory of visual art in the late twentieth and twenty-first centuries. Instructor(s): M.J. Jackson Terms Offered: Spring Equivalent Course(s): ARTH 42911

#### ARTV 40000. Graduate Studio Project. 100-300 Units.

Only MFA students in the Department of Visual Arts may register for this class.

Terms Offered: Autumn Spring Winter

# ARTV 40100. Mexico: Near and Far, a la distance y for dentro. 100 Units.

This travel seminar is only open to MFA students in the Department of Visual Arts.

Instructor(s): L. Letinsky Terms Offered: Autumn

Prerequisite(s): This travel seminar is only open to MFA students in the Department of Visual Arts.

# ARTV 40310. Technology and Aesthetics. 100 Units.

The idea of technological 'progress' is a contested one, but it cannot be denied that innovation, at the very least, is a continuous process. Technological innovations regularly enable new mediums, new styles, new genres, and new subject matter as they offer us new ways to record the world, express ourselves, and tell stories. And because art is one of the fundamental lenses through which we see the world, the advent of new artistic and literary forms constantly offers us new ways to know. Each transformation in both creation and reception, however, raises anew fundamental theoretical questions: what is the difference between an objective record of the world and an artistic rendition of it? After touching briefly on the revolution brought about by Gutenberg's invention of the printing press, this class will span the 19th through the 21st centuries to explore how technological innovation has led to new literary and aesthetic forms. Though the primary focus will be on literary texts, the course is intended as an interdisciplinary one, incorporating visual art and media. Class sessions will include visits to the Rare Book Collection, local art museums, and, potentially, Chicago-area theatre performances. For their final projects, students will be able to choose between a research paper or a creative project that engages with the questions and concerns of the course.

Instructor(s): Anastasia Klimchynskaya Terms Offered: Spring

Equivalent Course(s): CHSS 40410, KNOW 40310, ARTH 40311

# ARTV 45540. Fact and Fiction. 100 Units.

Since Grierson's definition of the documentary as 'creative treatment of actuality,' critics have been struggling to establish distinctions between documentary and fiction. Furthermore, the critical discourse has been constantly challenged by new artistic meditations of reality and its representation, and works blurring the border between the logic of facts and the logic of fiction. Additionally, this dualism is complicated by the difficult question of truth telling. Cinema has a long and winding history of non-fiction: from staged or dramatized actualities at its beginning, via docudram, fake documentaries and mockumentary, to trends in recent documentaries that incorporate reenactment and animation. Since the mid-1990s the 'documentary turn in contemporary art' has seen more and more artists experimenting with documentary modes through which they are questioning the mediations by which facts/documents acquire their facticity. The aim of this seminar will be to examine films and works in contemporary at that address these difficult questions of fact and fiction. Readings will include work from film and art criticism and theory, as well as critical literature addressing questions of fact and fiction in historiography, narratology, and philosophy. Films may include works by Edison, Robert Flaherty, Ari Folman, Abbas Kiraostami, Chris Marker, George Méliès, Avi Mograbi, Rithy Panh, Peter Watkins. Works by contemporary artists may include Kutlug Ataman, The Atlas Group/

Equivalent Course(s): ARTH 25540, CMST 25540, ARTV 20540, MAPH 45540, ARTH 35540, CMST 45540

# ARTV 39200. Graduate Seminar: ARTV. 100 Units.

Only MFA students in the Department of Visual Arts may register for this class. Instructor(s): D. Schutter, W. Pope.L Terms Offered: Autumn Winter

#### ARTV 39700. Independent Study in Visual Arts. 100-300 Units.

Students in this course should have already done fundamental course work and be ready to explore a particular area of interest much more closely.

Instructor(s): Staff Terms Offered: Autumn Spring Winter

## ARTV 39901. 21st Century Art. 100 Units.

This course will consider the practice and theory of visual art in the late twentieth and twenty-first centuries. Instructor(s): M.J. Jackson Terms Offered: Spring Equivalent Course(s): ARTH 42911

## ARTV 40000. Graduate Studio Project. 100-300 Units.

Only MFA students in the Department of Visual Arts may register for this class. Terms Offered: Autumn Spring Winter



# The Division of the Physical Sciences

#### Dean

Angela V. Olinto

#### Deputy Deans

- Andrew Campbell
- Aaron Dinner
- Michael Foote
- Stuart Kurtz

Dean of Students

Bahareh Lampert

The Division of the Physical Sciences includes the Departments of Astronomy & Astrophysics (http:// astro.uchicago.edu/), Chemistry (http://chemistry.uchicago.edu/), Computer Science (http://www.cs.uchicago.edu/), Geophysical Sciences (http://geosci.uchicago.edu/), Mathematics (http://www.math.uchicago.edu/), Physics (http:// physics.uchicago.edu/), and Statistics (http://www.stat.uchicago.edu/). It also includes the Enrico Fermi Institute (http://efi.uchicago.edu/), the James Franck Institute (http://jfi.uchicago.edu/), and the (interdivisional) Institute for Biophysical Dynamics (http://ibd.uchicago.edu/). Graduate degrees are awarded only by the departments, the Committee on Computational and Applied Mathematics (CCAM) (https://cam.uchicago.edu/) and the Biophysical Sciences (http:// biophysics.uchicago.edu/) program, but students in physical sciences programs often conduct their research under the auspices of the research institutes.

Undergraduate programs in the physical sciences are administered by the College. Detailed descriptions of programs leading to the bachelor's degree may be found in The College Catalog (http://collegecatalog.uchicago.edu).

#### Admission to Graduate Programs in the Division

Applicants for admission to graduate studies in the Physical Sciences should refer to individual program entries for specific admissions requirements.

An applicant who has received a bachelor's degree or the master's degree from an accredited college or university may be admitted on the basis of his or her previous academic record.

An applicant who has completed at least two years of college work with superior standing in the basic courses of a special field and an adequate record of general studies but who does not have a four year bachelor's degree may be admitted to the division to study toward a higher degree. However, failure to qualify for a higher degree leaves the student with no degree. Admission on this basis is recommended only for those with high aptitude for their major field and with not more than two deficiencies in general education covering the areas of English, modern foreign languages, humanities, social science, and biological science.

A person may be admitted as a graduate student at large or as a returning scholar for the purpose of studying a definite subject or subjects for which he or she has an adequate background. Admission is considered upon the basis of an abbreviated application, such credentials as may be appropriate, and a clearly defined statement of objectives. Application is made to the Graham School of Continuing Liberal and Professional Studies (https://grahamschool.uchicago.edu).

#### Financial Aid

All graduate students at the doctoral level in the Division of the Physical Sciences receive financial support, typically in the form of teaching or research assistantships which include a tuition scholarship and health insurance coverage. Other forms of support include fellowships provided by the National Science Foundation, the U.S. Department of Education, and various private foundations.

#### Degrees

Normally students admitted to a degree program are expected to be in continuous, full time residence until the degree has been conferred. Since individual departmental or program degree requirements may change, students should always contact their department or program for current degree requirements and regulations. Per University policy, a student must complete three quarters of full-time registration (or the equivalent in part-time registration quarters) at the University in order to qualify for a degree.

#### Master of Science

Master of Science students are required to register full time in the division for a minimum of three quarters, during which time they must satisfactorily complete a minimum of nine individual courses. There are several masters programs in the division for students who want to specialize in specific areas in the physical sciences:

- The Committee on Computational and Applied Mathematics offers a Master of Science in Computational and Applied Mathematics (https://voices.uchicago.edu/cammasters/).
- The Department of Computer Science offers a Master of Science in Computer Science (http:// csmasters.uchicago.edu/).
- The Department of Mathematics offers a Master of Science in Financial Mathematics (http://www-finmath.uchicago.edu).
- The Physical Sciences Division offers a general Master of Science in the Physical Sciences (https:// mspsd.uchicago.edu/) aimed at students who wish to broaden or deepen their knowledge of the physical and mathematical sciences.
- The Department of Statistics offers a Master of Science in Statistics (http://www.stat.uchicago.edu/admissions/ MastersDegree.shtml/).

In addition,

- The Department of Computer Science together with the Harris School for Public Policy offers a Master of Science in Computational Analysis and Public Policy (https://capp.uchicago.edu/).
- The Physical Sciences Division together with the Harris School for Public Policy and Argonne National Laboratory offers a Master of Science in Environmental Science and Policy (https://harris.uchicago.edu/academics/ programs-degrees/degrees/ms-environmental-science-and-policy-msesp/).

# Doctor of Philosophy

3.

The degree of Doctor of Philosophy is conferred in recognition of high accomplishment and ability in the candidate's chosen field. It is understood that the completion of a specified number of courses and a given period of residence do not ensure the granting of this degree. The requirements for the degree of Doctor of Philosophy are as follows:

- 1. Completion of the University's residence requirements.
- 2. Admission to candidacy for the degree. Admission to advanced work in the division does not necessarily imply admission to candidacy for a degree, which is contingent upon the recommendation of the program in which the student is working. At the appropriate time programs will submit to the Dean of Students in the division, on behalf of each student, an application requesting approval of admission to candidacy. Approval of the application certifies that:
  - The candidate has satisfied all course requirements for the program.
  - The candidate's program recommends admission to candidacy (following satisfactory completion of individual examination requirements).
  - The candidate has begun investigation for a dissertation.
  - The passing of final examination(s) in accordance with one of the following plans:
  - A basic examination in the major fields of interest in the department or departments of specialization and a final oral examination in the field covered by the dissertation or;
    - In the absence of a preliminary or basic examination, passing comprehensive examinations covering major fields of interest in the program of specialization, including the field of the dissertation.
- 4. Acceptance by the department or program and the Dissertation Office of a dissertation submitted for the degree.



# Master of Science Program in Computer Science

The Department of Computer Science (http://www.cs.uchicago.edu/) at the University of Chicago offers two graduate curricula in computer science:

- A graduate professional curriculum leading to the Master of Science (S.M.) degree, for students who wish to enter
  or advance themselves in computer science practice. This is the MPCS program outlined below.
- A graduate research curriculum leading to the Ph.D. degree that prepares students to perform advanced basic research in computer science either in industry or academia. For more information on the Ph.D. program, please see the listing Department of Computer Science.

The Masters Program in Computer Science (MPCS) (https://masters.cs.uchicago.edu) offers a comprehensive and professionally-oriented computer science education that combines the foundations of computer science with the applied and in-demand skills necessary for careers in technology. The MPCS is especially well suited for students interested in Data Analytics, High Performance Computing, Information Security, Mobile Computing and Software Engineering.

The coursework in the MPCS represents a realistic balance between CS foundational theory and applied technical courses. Core classes include Programming, Algorithms and Systems coursework. Electives include new and innovative courses to keep up with the fast-paced world of technology including courses in Software Engineering, Big Data, Data Analytics, Machine Learning, High Performance Computing, Mobile Application Development, Web Development, Cloud Computing and Information Security.

The MPCS offers the following Programs of Study to accommodate students with a wide range of backgrounds and interests:

#### MS in Computer Science Full-Time

The full-time Masters Program in Computer Science offers a professionally-oriented computer science education that combines the foundations of computer science with applied technical coursework. The full-time MPCS is especially well suited for students interested in Data Analytics, High Performance Computing, Information Security, Mobile Computing and Software Engineering. Full-time students at the University of Chicago take 3 classes per quarter and have the choice to complete the 9-Course program in one academic year or the 12-Course specialization program in 15 months. Daytime classes are available for full-time students.

MS in Computer Science Part-Time (https://masters.cs.uchicago.edu/page/ms-computer-science-part-time/) The part-time Masters Program in Computer Science offers working professionals the opportunity to pursue a professionally-oriented computer science education that combines the foundations of computer science and applied technical coursework. This program allows the flexibility to complete the program, and enhance your technology skillset, at your own pace. Part-time students at the University of Chicago can take 1 to 2 classes per quarter, with most students completing the 9-Course Program in 18 months to 2 years. Evening classes are available for part-time students.

Joint MBA/MPCS Program (https://masters.cs.uchicago.edu/page/mba-mpcs/) with the Booth School of Business The Joint MBA/MPCS program meets today's leading tech companies' cross-functional demands of new employees. Technology permeates everything, and true innovation requires the ability to understand and navigate both business and technology. Our joint program with UChicago's Booth School of Business enables students to earn both an MBA and an MS in Computer Science.

#### **Pre-Doctoral MS in Computer Science**

This program is a 12-course research-oriented masters program for students who want to explore computer science research. The Pre-Doc program is for full-time students with a CS background starting in the Autumn quarter.

#### Introduction to Programming and Math for Computer Science (Discrete Math)

Introductory coursework in programming and math (called immersion classes) are available to any admitted MPCS student. Students can complete one or both of these classes before beginning coursework in the MS in Computer Science Program.

Please see our website for admissions requirements and deadlines (https://masters.cs.uchicago.edu/page/admissions/). To view a complete list of course offerings, please visit the MPCS Course Catalog (https://masters.cs.uchicago.edu/page/mpcs-course-catalog-0/).

For inquiries or questions please email questions@cs.uchicago.edu.

Computer Science Masters Courses

#### MPCS 50101. Concepts of Programming. 100 Units.

In this course students will get an introduction to the field of computer science by learning to program in Java. Students will write roughly two or three programs of significance each week to learn foundational programming principles and practices for writing clean, readable code, and learning how think and solve problems like a computer scientist. Along with basic principles like procedural abstraction, recursion, and handling input and output, an emphasis will be placed on theories and principles of Object Oriented software design, analyzing algorithms and choosing appropriate data structures to solve problems.

Instructor(s): TBA Terms Offered: Autumn Winter Note(s): Open only to MPCS students

# MPCS 50103. Mathematics for Computer Science: Discrete Mathematics. 100 Units.

This course in an introduction to discrete mathematics oriented toward computer science. The course emphasizes mathematical proof and problem solving, employed on a variety of useful topics: logic; proof by induction; counting, factorials, and binomial coefficients; discrete probability; random variables, expected value, and variance; recurrences; graphs and trees; basic number theory; asymptotic notation, and rates of growth. On completion of the course, students will have been trained to think about and absorb mathematical concepts, to solve problems requiring more than standard recipes, and express mathematical notions precisely. They will be able to use ideas and techniques from discrete mathematics in subsequent courses in computer science, in particular courses in the design and analysis of algorithms, networks, numerical methods, software engineering, data analysis, and data mining.

Terms Offered: Autumn Summer Winter

Prerequisite(s): Precalculus, especially logarithms and exponentials, is a prerequisite; calculus is not required. High-school level familiarity with sets, functions, and relations will be assumed. There are no programming prerequisites. Note(s): Open only to MPCS students

#### MPCS 51030. iOS Application Development. 100 Units.

Advances in mobile technologies are changing the way that individuals and businesses use computing devices. This course will instruct students on the fundamentals of mobile application development using Apple's iOS SDK. An introduction to the Objective-C programming language, including memory management, object-oriented design, and the model-view-controller pattern, will be covered. Using iOS APIs and tools, such as Xcode, Interface Builder and Instruments, students will be able to create fully-featured iPod Touch, iPhone, and iPad applications. User interface and application design considerations specific to mobile technologies will also be explored. The course will consist of lectures, hands-on coding exercises and discussion. Weekly programming assignments will culminate into the development of a fully functioning iOS application. As a final project, each student will design and implement an application of their choice to be presented in class. Each student will also be required to present a case study featuring an app from the Apple's App Store. The studies will include a technical decomposition of the implementation (i.e. features, functionality, design, etc.) and a market analysis (i.e. competition, pricing, positioning, etc.) for the app. These case studies are designed to encourage students to gain an appreciation for the decisions companies and developers face when entering the app market.

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51031. Android Application Development. 100 Units.

After a quick introduction to mobile computing, competing platforms, Android architecture, market projections, and social and economic implications, we will dive directly into developing several reference implementations. Alternating between theory and practice, and progressing cumulatively, will will cover every major feature of the Android platform, including; audio, graphics, internet connectivity, wifi, mapping/geo-positioning, notifications, sms, structured feeds, persistence, threads, states, and inter-process communication, among others. Students will chose a final project, then envision, design, develop, test, and deploy an application to the Android marketplace.

Instructor(s): Adam Gerber Terms Offered: Spring

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51100 and experience programming in Java Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 51032. Advanced iOS Application Development. 100 Units.

Advances in mobile technologies are changing the way that individuals and businesses use computing devices. This course will explore real-world issues with developing robust, high-performance iOS applications for iPhone, iPod Touch and iPad. The course will consist of lectures, hands-on coding exercises and discussion. Weekly programming assignments will be used to create a portfolio of applications using advanced iOS frameworks and tools, such as Xcode, Interface Builder and Instruments. Throughout the course, students will design and develop an application as a final project. Students may opt to work in collaboration with local companies or emerging start-ups for their project. These opportunities will be discussed during the first week of class and may vary by quarter.

Instructor(s): T. Andrew Binkowski Terms Offered: Spring

Prerequisite(s): MPCS 51030 or instructor's consent

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 51033. Backends for Mobile Applications. 100 Units.

The breakneck adoption of mobile computing as a platform has transformed how businesses and users interact with their data. The expectations of being able to access your data anywhere and anytime has become the second pillar of mobile application design and development. New models, patterns and workflows are needed to connect applications to their server based data. In addition, other considerations such as privacy, scalability and cost must be balanced to meet the demands of all application stakeholders.

Terms Offered: TBD

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046, or 51100 and MPCS 51030

# MPCS 51036. Java Programming. 100 Units.

This is a fast-paced first course in Java for students with some prior programming experience, though not necessarily Java or any other object-oriented language. A strong emphasis will be placed on understanding basic fundamentals of OO design--inheritance, polymorphism, composition, etc. and more generally on applying sound principles of contemporary software engineering and tools to real-world problems. In the latter half of the course, we will cover threads, OO design patterns, as well as certain Java libraries such as Swing. For their final-projects, students will develop a multi-threaded, arcadestyle game. The course format is both lecture and lab. We will use be using git to facilitate our learning and to manage our projects. By the end of the quarter, students will have a working knowledge of git and know how to manage both local and remote repositories.

Instructor(s): Adam Gerber Terms Offered: Autumn Spring

Prerequisite(s): Immersion programming (MPCS 50101) or passing score on programming placement exam.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51039. Mobile Software Development. 100 Units.

This course examines software engineering skills through the lens of mobile development. Students will leave with more confidence in their ability to debug, decipher complex software systems, test their code, navigate documentation, leverage version control, and learn new programming languages. We'll exercise these skills with both the Android and the iOS framework, but the goal isn't to become fluent in a mobile stack; the goal is to practice the skills. The course also capitalizes on the unique history of mobile handsets and tablets to talk about about accessibility, data privacy, sourcing ethics, and to what degree it is our responsibility as engineers to understand and prioritize these things.

Terms Offered: Spring

# Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51040. C Programming. 100 Units.

This is an accelerated introduction to the C (not C++) Programming Language designed for students with prior programming experience. C is in many ways the lingua franca of computing, and a broad range of programming languages and related technologies derive from the basic principles of C memory management, control flow, and abstraction. Though there are many subtleties, C is not a big language, and it is expected that students will leave the course with a relatively deep understanding of the key concepts, which will then form a solid foundation for studying higher-level technologies. At the same time, C itself remains a very practical language, particularly so in areas such as scientific programming, high-performance computing, application level library design, systems programming, network programming, multi-threaded programming, etc. Students who successfully complete the course will be well prepared for subsequent MPCS courses in these areas. The course studies both fundamental and advanced C language constructs in the abstract and reinforces them through a range of exercise in the design of basic and advanced data structures, rudiemntary algorithms, and API design. Instructor(s): Dries Kimpe Terms Offered: Autumn Spring

Prerequisite(s): Immersion programming (MPCS 50101) or passing score on programming placement exam. Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https:// masters.cs.uchicago.edu

# MPCS 51042. Python Programming. 100 Units.

This course provides a thorough overview of the Python 3 language with an emphasis on writing idiomatic code in Python and object-oriented design patterns and is suitable for students with some prior programming experience. We will develop an understanding of the core features of the languages and gain exposure to commonly used standard-library and third-party modules.

Prerequisite(s): MPCS 50101 or passing score on the MPCS programming placement exam.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51044. C/C++ for Advanced Programmers. 100 Units.

This course covers the major features of  $C^{++}$  in an accelerated fashion suitable both for experienced C++ programmers and programmers who are new to C++ as described in the prerequisites below. The course teaches how to get the most out of the current C++11 language, which Bjarne Stroustrup, the inventor of C++, says "feels like a new language." It also discusses how to workaround in old versions of C++. A dominant theme of the course is how to use the unique features of C++ to operate at a high-level of abstraction to support powerful design idioms and improve maintainability while also achieving the kind of performance and low-level control usually associated with lower-level languages such as C and even assembler language.

Instructor(s): Michael Spertus Terms Offered: Winter

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100 or programming experience in any language with instructor's consent

# MPCS 51045. Advanced C++ 100 Units.

In this continuation of the MPCS 51044 course, we go beyond the basics to cover the powerful and surprising techniques that C++ experts use to write libraries that simultaneously provide the optimum in ease-of-use, abstraction, and performance. If you use C++ in your daily life, you and your team will see substantial benefits from understanding and using C++ at a deeper level.

Instructor(s): Michael Spertus Terms Offered: Spring

Prerequisite(s): MPCS 51044 or instructor's consent

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51046. Intermediate Python Programming. 100 Units.

Python is a general-purpose programming language that is used in many application areas, including data science, machine learning/AI, web development, scientific computing, graphical user interfaces, systems programming, gaming, rapid prototyping, and more. This course provides a thorough overview of the Python 3 language with an emphasis on writing idiomatic code in Python and object-oriented design patterns and is suitable for students with some prior programming experience. We will develop an understanding of the core features of the languages and gain exposure to commonly used standard-library and third-party modul

Instructor(s): Paul Romano Terms Offered: Autumn

Prerequisite(s): MPCS 50101 Concepts of Programming (or programming waiver) and approval from MPCS administration Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51050. OO Architecture: Patterns, Technologies, Implementations. 100 Units.

This course gives hands-on experience in architecture and design and the communication of such designs in the form of patterns. There are no formal prerequisites except solid familiarity with Java and optionally familiarity with C++. The course is designed to give students a fundamental introduction to design and architectural patterns as they are implemented in large scale system architectures currently used in industry. Students will be encouraged to explore the various implementation possibilities afforded by these patterns. Trade-offs in terms of performance, development time, maintenance impact, etc. will also be discussed. Students will gain exposure to several industry-leading tools including Apache ActiveMQ and ServiceMix.

Instructor(s): Mark Shacklette Terms Offered: Spring

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100. Also basic familiarity with one object-oriented programming language, such as Java, C# or C++

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 51083. Cloud Computing. 100 Units.

Cloud computing is being widely adopted by enterprises of all sizes due to the low initial investment required, attractive operating costs, and elastic capacity that can best serve the highly variable demands of modern applications. Software engineers must be familiar with cloud computing technologies since many new applications they develop will be deployed "in the cloud", and existing applications will often require integration with cloud-hosted services to take advantage of new capabilities. This course provides an introduction to cloud computing with specific consideration for applications development in two contexts: highly scalable (or so-called "web-scale") web applications, and enterprise applications in a hybrid environment comprising both on-premises and cloud infrastructure. We will focus primarily on infrastructure and platform services, and will introduce software-as-a-service from the perspective of a consuming application. The course will emphasize practical applications of cloud computing technologies, with sufficient exploration of their theoretical underpinnings to inform architectural, design, and implementation decisions.

Instructor(s): Vas Vasiliadis Terms Offered: Spring Summer

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100

# MPCS 51087. High Performance Computing. 100 Units.

Parallel computing allows multiple processing units to work together simultaneously on a common task. For certain types of applications, parallelization can increase execution time in proportion to the number of computers or processors used. This is a huge advantage for applications which have performance and/or memory bottlenecks, such as one typically encounters in financial modelling, physics, engineering, or other applied science domains. This is a fast-paced applied programming course aimed at students with significant development experience in either C, C++, or FORTRAN (Java, Matlab, or Python are also possible, but not ideal). No prior knowledge of parallel computing is assumed. Students should, however, have both an interest and some previous experience in either algorithmic development, numerical methods, applied mathematics, or perhaps any physics or engineering-type discipline. A brief overview of parallel computing will be presented at the outset, but the course will be less on overview of HPC architectures and much more a focus on algorithmic implementation and performance tuning. The goal of the course it to give students experience in developing efficient, scalable (distributed memory) parallel algorithms appropriate for any system running an implementation of the Message Passing Interface (MPI). Assignments will be designed with some flexibility to allow students to explore applying parallel techniques to applications in their own field of interest.

Instructor(s): Andrew Siegel Terms Offered: Winter

Prerequisite(s): MPCS 51040 or 51100 or instructor's consent

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51100. Advanced Programming. 100 Units.

Advanced Programming fulfils the MPCS Core Programming requirement, but is intended for students who are joining the program with an existing degree in Computer Science, or with substantial experience in programming. This course will be taught primarily in C, including an accelerated introduction to the C language for students who have not used C before. The course will cover advanced data structures and topics in concurrent and multicore programming not covered in the Java Programming or C Programming courses.

Instructor(s): Andrew Siegel Terms Offered: Autumn

Prerequisite(s): For students who have taken the programming immersion course, a minimum grade of A- plus the endorsement of the MPCS 50101 instructor will be required. For students who take the programming placement exam, they must score a "High Pass" score (the minimum score for a "High Pass" is specified at the time of the exam). Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51200. Introduction to Software Engineering. 100 Units.

Writing first-class software requires top-notch architecture, design and coding skills, but successful software project execution—from identifying the need to providing support--depends on many factors besides technical prowess. This course surveys the key practices and processes that help ensure successful projects. It provides an introduction to central activities of software engineering other than just coding, such as planning, requirements, testing and management. It balances this discussion of typical engineering activities against the development process models in which they take place -- specifically, it addresses the tension between traditional plan-driven approaches and adaptive agile techniques. By examining the underlying principles of major development models, it shows how those principles address (or fail to address) the various problems encountered by project teams. Students who complete this course will gain a solid understanding of both plandriven and agile software development principles and how to negotiate between them in different contexts. Instructor(s): Peter Vassilatos Terms Offered: Autumn Winter

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51205. Topics in Software Engineering. 100 Units.

This course is an intermediate approach to applied software design and development methods for use in creating efficient, reusable, and modular software. This course is offered annually but content and focus change from year to year. Methods we investigate include: distributed systems, architectures including microservices, event-driven architecture, Hybrid Transactional/Analytical Processing; software frameworks and container-based software development; and advanced techniques including multi-threading and data design. A heavy focus is on design and creativity and what constitutes creative design. This course provides hands-on experience in the architecture and design of systems and a review of best practices for the communication of that design. Issues in the landscape of software design, including complexity, constraints, progressive discovery, and limitations in communication will be explored. In this course, students will be organized into teams and each team will be provided with a set of (partial) requirements and will be responsible for the analysis, design documentation, and implementation in source code of a project that constitutes a complex software system. Each team of students will work through requirements analysis, expression of design using a modeling language, and implementation, and techniques and tools will be provided in order to facilitate the delivery.

Instructor(s): Peter Vassilatos Terms Offered: Winter

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100.

# MPCS 51220. Applied Software Engineering. 100 Units.

In this course, we will explore practical techniques to solving modern software challenges. Topics include: Software quality control, Test-driven development, Domain-driven design, Measuring software quality, Architectural design patterns, Edge-free programming, Event streams, logging, and audit trails, Source control techniques for small teams with Git, Security and cryptography essentials, Continuous integration & deployment

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51230. User Interface and User Experience Design. 100 Units.

This course is eleven weeks in length and covers the elemental practices of user interface (UI) design, user experience (UX) design, and user research. The intention of the course is to provide an overview of the experience design field so that the student is empowered to practice design as well as effectively manage design. It is, however, more likely that the student will collaborate with others on the design of products and services.

Prerequisite(s): MPCS 51030 or MPCS 51031

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51240. Product Management. 100 Units.

In this course we will introduce the role of the product manager and demonstrate the challenges faced by product managers. We will explore approaches for managing the tension that exists between software development and product delivery using the minimum viable product and the product roadmap as critical tools.

Instructor(s): Vasilios Vasiliadis

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100. his course assumes no prior knowledge of product management concepts or specific technologies. However, you may find some of the material easier to put into perspective if you're familiar with software design patterns, or have taken one of the other software engineering courses offered in the MPCS.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 51250. Entrepreneurship in Technology. 100 Units.

The core theme for the Entrepreneurship in Technology course is that computer science students need exposure to the broad challenges of capturing opportunities and creating companies. Most of the skills required for this process have nothing to do with one's technical capacity. We'll explore creating a story, pitching the idea, raising money, hiring, marketing, selling, and more. Real-world examples, case-studies, and lessons-learned will be blended with fundamental concepts and principles. The course will involve a business plan, case-studies, and supplemental reading to provide students with significant insights into the resolve required to take an idea to market. Class discussion will also be a key part of the student experience. Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): If an undergraduate takes this course as CMSC 29512, it may not be used for CS major or minor credit. Non-MPCS students must receive approval from program prior to registering. Request form available online https:// masters.cs.uchicago.edu

Equivalent Course(s): CMSC 29512

#### MPCS 51300. Compilers. 100 Units.

This class teaches the theory and practice of how to write a compiler, including lexical analysis, grammars, lexers and parsers, type checking, and code generation. For decades, compilers have been the most dynamic and challenging branch in computer science. The main part of this class will focus on providing the basics of the different phases of compilation. Through the course, students will develop appreciation for the implementation strategies behind making an ef cient and robust compiler.

Terms Offered: TBD

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

# MPCS 51400. Functional Programming. 100 Units.

This course presents the functional programming paradigm, based on the idea of functions as first-class values that can be computed and operated on like other data. Functional languages provide great power of expression while maintaining simplicity, making it easier to write correct and maintainable software. Functional programming has gradually found new applications in areas like finance, telecommunications, and graphics. The essential feature of treating functions as values has also been added to a broad range of conventional languages, such as Python, C++, Java, Apple's Swift and Google's Go language. The course will use the Haskell language based on its representing a purely functional language and its large community support that helps with writing Haskell programs easily. After learning the basic elements of these languages, we will explore functional programming techniques that can be exploited in many areas of application. In particular, we will examine how FP features are used in more modern languages and libraries such as C++, Java, Alm, and React libraries and how they are used in real-world settings. We will explore more advanced topics including concurrent functional programming and functional reactive programming.

Instructor(s): Lamont Samuels

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100. Students with an existing CS background may take this class concurrently with Core Programming with consent from the MPCS.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 51410. Object Oriented Programming. 100 Units.

This course concentrates on three major themes: Software Architecture, Object Oriented Analysis and Domain-Driven Design, and Methodology. The bulk of the course will involve advanced concepts in Object-Oriented Analysis and Design and Domain-Driven Design (OOAD/DDD). The methods we will study include Object-Oriented Analysis and Design, Domain-Driven Design, and the Unified Modeling Language (UML). While the focus of the course is on current best practices in designing object-oriented software, the general theme of the course is coming to terms with complexity in software systems and domains.

Instructor(s): J. Mark Shacklette

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 52010. Computer Architecture. 100 Units.

This course focuses on the design and performance evaluation of modern computer architectures. The emphasis is on microprocessors, chip-multiprocessors and memory hierarchy design, particularly in the context of parallel (multicore) CPUs.

Instructor(s): Andrew Siegel

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 52011. Introduction to Computer Systems. 100 Units.

This course is all about constructing your own knowledge of computer systems by building a general-purpose computer system from the ground up. The objective is to integrate key ideas from algorithms, computer architecture, operating systems, compilers, and software engineering into one unified framework. Along the way, we'll explore ideas and techniques used in the design of modern hardware and software systems, and discuss major trade-offs and future trends. Throughout this journey, you'll gain lots of cross-section views of the field of computer science, from the bare-bone details of switching circuits to the high-level abstraction of object-based software design. By the end of the course, you will have written a computer game in an object-oriented programming language; compiled that program into machine language using the compiler, the virtual machine language translator, and the assembler that you wrote; and run your program on (virtual) hardware that you designed.

Terms Offered: Autumn Winter

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100 completed or can take concurrently.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 52015. Advanced Computer Systems. 100 Units.

This course focuses on studying modern computer systems from the point of view of a programmer, with an emphasis on topics which help you improve the performance, correctness or utility of user-level programs. As such, this is intended to be a practical, hands-on study of contemporary computer systems. We will focus on the X86-64 architecture (as implemented by Intel/AMD 64 bit processors). Topics: - Representing and Manipulating information: unsigned and two's complement representation, IEEE floating point and corresponding arithmetic. - Machine level representation of programs: x86-64 assembly, control instructions, translation of basic C control constructs (such as loops and switch statements), a study of common code security vulnerabilities (such as buffer overflows). - Processor architecture: study of a pipelined out of order processor. - Code optimization - Memory hierarchy: persistent storage(magnetic spinning disks, SSD), RAM and ROM, and caches. - Virtual Memory This is a hands on course; There will be multiple labs requiring you to program in C. Terms Offered: Winter

Prerequisite(s): MPCS 51040 C Programming or MPCS 51100 Advanced Programming.

# MPCS 52030. Operating Systems. 100 Units.

This is an introductory course on operating systems. Students will learn the fundamentals of how modern operating systems are built, from the interface with hardware up through the kernel-userspace boundary. Important topics include the relationship between processes and threads, synchronization, inter-process communication, memory management, file systems, scheduling, I/O, virtualization. These concepts will be reinforced through several large-scale programming projects (in C++), whereby students will implement various sub-components of a real operating system. Prior experience with C and/ or C++ required. As appropriate, we'll use the Linux operating system (written in C) as an example of operating systems design. As time permits, we will also delve into current hot topics in the field (such as multi-core systems, security, and cluster/grid computing).

# Terms Offered: Spring

Prerequisite(s): Student must meet one of the following requirements: - B+ or higher in MPCS 51040 - C Programming - B+ or higher in MPCS 51040 - Advanced Programming - A- or higher in MPCS 51044 - C++ for Advanced Programming (students who have only taken this class should review C before taking OS) Students must also have a B+ or higher in MPCS 52011 - Introduction to Computer Systems.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 52040. Distributed Systems. 100 Units.

This class teaches the theory and practice of how to design a distributed system. Cloud computing, drive services, online collaborative working environment, massively multiplayer online gaming, airline reservation systems, e-commerce are examples of distributed systems. Because of a continuous growing number of independent and diverse connected devices, the need of managing heterogeneous architecture became prominent. We will learn how to create a reliable system being easy to use but handling the complexity of having all these machines work collectively. The objective of this class is to learn distributed system by studying: Communication mechanisms Synchronization Scalability Consistency / Replication Fault tolerance

# Terms Offered: Spring

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 52060. Parallel Programming. 100 Units.

Parallel computing is found everywhere in modern computing. Multi-core CPUs and GPUs, supercomputers, and even mobile devices such as smartphones all provide ways to efficiently utilize parallel processing on these architectures and devices. The goal of this course is to provide an introduction to the foundations of parallel programming and to consider the performance gains and trade-offs involved in implementing and designing parallel computing systems. Specifically, this course will place an emphasis on concepts related to parallel programming on multicore processors. Terms Offered: Autumn Spring

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100. Familiarity with C, Java, and/or Python Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 52553. Web Development. 100 Units.

This course provides students with an introduction to modern web development, with an emphasis on the pragmatic skills needed to build live, functioning web applications. Students will learn fundamental domain modeling skills, HTML and CSS frameworks, agile software techniques and best practices, Javascript and AJAX, and both server-side and client-side debugging techniques. We will use the Ruby language and the Rails framework to immerse students into the challenge of building a live, database-backed web application deployed at a public web address. Specifically, students will learn how to: Build a live website or web application and deploy it to the public internet; Use the Ruby on Rails framework to rapidly build a web application; Write software using the Ruby programming language; Use a relational database to provide content for dynamic websites; Follow industry best-practices of modern web software development; Troubleshoot and resolve the most common problems with web applications

Terms Offered: Spring Winter

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 52554. Advanced Web Development. 100 Units.

This course builds upon MPCS 52553 to enable students to gain mastery over modern web architectures and services. Today's consumer-facing and business applications must consume external services and publish services of their own. Students will build interconnected chains of services, with a particular emphasis on efficiency, security, and sustainability using modern web frameworks such as Rails, React, Node, and more.

Instructor(s): Jeffrey L Cohen Terms Offered: Autumn

Prerequisite(s): MPCS 52553 Web Development

# MPCS 52560. Applied Financial Technology. 100 Units.

TBD

Terms Offered: Autumn Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must meet the prerequisites and request approval - https://masters.cs.uchicago.edu/page/ course-requests '

# MPCS 53001. Databases. 100 Units.

Students will learn database design and development and will build a simple but complete web application powered by a relational database. We start by showing how to model relational databases using the prevailing technique for conceptual modeling -- Entity-Relationship Diagrams (ERD). Concepts covered include entity sets and relationships, entity key as a unique identifier for each object in an entity set, one-one, many-one, and many-many relationships as well as translational rules from conceptual modeling (ERD) to relational table definitions. We also examine the relational model and functional dependencies and their application to the methods for improving database design: normal forms and normalization. After design and modeling, students will learn the universal language of relational databases: SQL (Structured Query Language). We start by introducing relational algebra -- the theoretical foundation of SQL. Then we examine in detail the two aspects of SQL: data definition language (DDL) and the data manipulation language (DML). Concepts covered include subqueries (correlated and uncorrelated), aggregation, various types of joins including outer joins and syntax alternatives. Students will gain significant experience with writing and reading SQL queries throughout the course in the detailed discussions in class, online homework, and the real-world individual project.

Terms Offered: Autumn Spring

Prerequisite(s): MPCS 50101 or receive a passing score on the MPCS programming waiver.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 53003. Advanced Databases. 100 Units.

The objective of this course will be to (i) expand the knowledge by covering new topics that represent the state-of-the-art in database management systems and distributed systems, and (ii) to build upon foundations developed in MPCS 53001 - Databases by covering topics in greater depth.

Terms Offered: Summer Winter

Prerequisite(s): MPCS 53001 or Instructor's consent

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 53014. Big Data Application Architecture. 100 Units.

The purpose of this class is to learn how to build applications at scale, by providing you with the techniques and tools capable of providing subsecond response times to millions of users interacting with petabytes of data. In this course, we will cover both the theory and practice of building Big Data application. We will not only learn how to use technologies such as HDFS, MapReduce, Spark, Kafka, Hive, Thrift, HBase, Zookeeper, columnar stores, etc., but also understand why Big Data applications employ such a diverse array of technologies and where each one of them fits. We will demonstrate the practice of Big Data application architecture by implementing a running Big Data web application for exploring the relationship between weather and flight performance utilizing all of the weather and flight delay information in the United States over the last decade to explore the relationship between weather and flight performance. To develop a sound understanding of the theory of Big Data, we will learn about important formulations of Big Data applications, such as Nathan Marz' lambda architecture, proper use of normalized and denormalized data stores within large-scale web applications, application of the CAP theorem, etc. We will also continuously keep in mind important additional topics that invariably arise in real world applications of Big Data, such as budgeting, compliance, etc.. Students are required to bring a laptop to class every week.

Instructor(s): Michael Spertus Terms Offered: Autumn

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51100. Very basic programming skills in Java. Basic linux IT skills.

Note(s): All non-MPCS students must meet the course prerequisites and complete the MPCS course request form for approval to register.

#### MPCS 53110. Foundations of Computational Data Analysis. 100 Units.

The course covers statistical methods for exploring, summarizing, and visualizing data sets, for modeling data using probability distributions, for making inferences about a population from samples, for testing hypotheses related to such inferences, and for describing relationships using linear and logistic regressions. It then examines in detail techniques from machine learning used for solving fundamental problems in data mining: classifying data through decision trees, nearest-neighbors, and Bayesian techniques; clustering data through k-means, hierarchical approaches, and density-based techniques; and performing association analysis through the Apriori algorithm. Students use Python for implementing algorithms and Python libraries such as NumPy, SciPy, matplotlib, and pandas for analyzing and visualizing datasets. Instructor(s): Amitabh Chaudhary Terms Offered: Winter

Prerequisite(s): This course requires mathematical, algorithmic, and programming maturity. Specific course prerequisites are: MPCS 50101 Math for Computer Science, MPCS 55001 Algorithms, MPCS Programming core requirement. In each of the above courses a B+ or better grade is required. Equivalent courses will be accepted with instructor permission. In addition, students are expected to be familiar with - Programming in Python: use of lists, dictionaries, conditionals, classes, and reading from and writing to files. Data structures: such as trees and graphs. Basic multivariate calculus: including differentiation, integration, and finding maxima and minima. Basic Linear Algebra: vectors, matrices, matrix multiplication, linear transformations, and eigenvectors. If you are unfamiliar with just one or two topics, you may be allowed to take the course if you are committed to learning those on your own. In that case, or if you have other questions, please email the instructor.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https:// masters.cs.uchicago.edu

#### MPCS 53111. Machine Learning. 100 Units.

This course introduces the fundamental concepts and techniques in data mining, machine learning, and statistical modeling, and the practical know- how to apply them to real-world data through Python-based software. The course examines in detail topics in both supervised and unsupervised learning. These include linear and logistic regression and regularization; classi cation using decision trees, nearest neighbors, naive Bayes, boosting, random trees, and arti cial neural networks; clustering using k-means, expectation-maximization, hierarchical approaches, and density-based techniques; and dimensionality reduction through PCA and SVD. Students use Python and Python libraries such as NumPy, SciPy, matplotlib, and pandas for for implementing algorithms and analyzing data.

Instructor(s): Amitabh Chaudhary Terms Offered: Spring

Prerequisite(s): 1. B+ or above in MPCS 51042 Python Programming (or in Programming core requirement with prior knowledge of Python) 2. B+ or above in MPCS 55001 Algorithms 3. B or above in MPCS 53110 Foundations of Computational Data Analysis (or Data Analysis placement exam) If you are concurrently taking Algorithms with Machine Learning, a B+ or higher in MPCS 50103 Math for Computer Science If your grades in the above classes do not meet the minimum requirements set above, please contact the instructor to discuss your background. Note(s): This course is not open to non-MPCS students.

#### MPCS 53112. Advanced Data Analytics. 100 Units.

This course explores selected advanced themes in data mining and analytics. These include the recent "model-free" techniques for mining massive datasets, foundations of natural language processing, and time series analysis. Topics include frameworks such as MapReduce; algorithmic ideas such as locality-sensitive hashing, Bloom Iters, random walks, and competitive analysis; and applications such as link analysis, social-network analysis, recommendation systems, streaming data, and advertising on the web. In natural language processing, the course introduces fundamentals of language models, text classification, and information retrieval and extraction. In time series analysis, the course examines stationary processes and the ARIMA and GARCH models.

# Instructor(s): Amitabh Chaudhary

Prerequisite(s): MPCS 50101 Math for Computer Science MPCS 55001 Algorithms MPCS 51042 Python Programming (or Programming core requirement with prior knowledge of Python) MPCS 53110 Foundations of Computational Data Analysis MPCS 53111 Machine Learning In all the above courses a grade of B+ or above is required. Please contact the instructor if you have, instead, equivalent courses or experience, or meet most but not all of the requirements. Note(s): This class is not open to non-MPCS students.

### MPCS 53113. Natural Language Processing. 100 Units.

Can we predict how people will vote based on their twitter conversations? Can we identity pairs of researchers who will benefit from collaborating with each other based on their published articles? In this course we will study techniques for automatically detecting patterns and learning hidden structures in text data. Such techniques are of tremendous value due to the explosion in the amount of available text data, and their potential benefit to social sciences and businesses. We will learn the fundamental steps in the natural language processing, such as syntactic parsing or understanding the structure of a sentence, and semantic analysis or understanding the meaning of a sentence from the meanings of the words in it. These will help us build sophisticated models for text classification, such as for detecting sentiment or identifying fake news. We will see that the primary challenge is that natural languages are ambiguous. For instance, the sentence I made her duck can be interpreted in five different ways! So our models are probabilistic, and we resolve the ambiguity by training on large amounts of text corpora. We will study a variety of models in the context of text processing including Markov and hidden Markov models, naive Bayes, logistic regression, and neural networks. All through the course we will use Python and libraries such as the Natural Language Toolkit (NLTK) for processing real-world data.

Instructor(s): Amitabh Chaudhary Terms Offered: Summer

Prerequisite(s): MPCS 50103 Math for Computer Science, MPCS Programming core requirement, MPCS 53110 Foundations of Computational Data Analysis, MPCS 53111 Machine Learning Equivalent courses or experience will be accepted with instructor permission.

Note(s): This class is not open to non-MPCS students.

## MPCS 53120. Applied Data Analysis. 100 Units.

This course provides a self-contained introduction to computational data analysis from an applied perspective. It is intended as a standalone course for students who do not want to pursue the full data analysis sequence in the MPCS. As such, students who have taken or are taking MPCS 53111 Machine Learning cannot register for this class. Students who have taken MPCS 53110 Foundations of Computational Data Analysis must obtain MPCS administration approval before registering for this class. The course will cover topics in basic probability theory, statistical inference, and basic machine learning models typically used in data analysis. Each topic will be accompanied by example illustrations using computational packages and software. Many of the topics covered form the basis of almost all algorithms and machine learning methods used in big data analysis. Emphasis will be given on using these techniques for problem solving. All work will be done in R Prerequisite(s): MPCS 50103 and MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 54001. Networks. 100 Units.

Broadly, this course will focus on the history, theory and implementation of computer networks. We will discuss the low-level technologies that move bits around (such as Ethernet and WiFi), the high-level applications that are part of our everyday 21st-century lives (such as email, the Web, and mobile phones), and everything in between (security, TCP/IP). At the completion of this quarter, you will (or should!) be able to explain, in detail, how data makes it way around the Internet when you click on a web link, how you can drive around at 80 MPH talking on a cell phone without the call dropping, how you can make a streaming video call over a lossy wireless link without frame dropping or jitter. In short, we'll pull back the curtain on what can be a somewhat mysterious and magical part of working with computers.

Instructor(s): William Connor Terms Offered: Autumn Winter

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 55001. Algorithms. 100 Units.

The course is an introduction to the design and analysis of efficient algorithms, with emphasis on developing techniques for the design and rigorous analysis of algorithms rather than on implementation. Algorithmic problems include sorting and searching, discrete optimization, and algorithms rather than on implementation. Algorithmic problems include sorting and searching, discrete optimization, and algorithms rather than on implementation. Algorithmic problems include sorting and searching, discrete optimization, and algorithms rather than on implementation. Algorithmic problems include sorting and searching, discrete optimization, and algorithms rather than on implementation. Algorithmic problems include sorting and searching, sinclude asymptotic notation, evaluation of recurrences, and the concepts of polynomial-time algorithms. NP-completeness is introduced toward the end the course. Students who complete the course will have demonstrated the ability to use divide-and-conquer methods, dynamic programming methods, and greedy methods, when an algorithmic design problem calls for such a method. They will have learned the design strategies employed by the major sorting algorithms and the major graph algorithms, and will have demonstrated the ability to use these design strategies or modify such algorithms to solve algorithm problems when appropriate. They will have derived and solved recurrences describing the performance of divide-and-conquer algorithms, have analyzed the time and space complexity of dynamic programming algorithms, and have analyzed the efficiency of the major graph algorithms, using asymptotic analysis. Terms Offered: Autumn Spring

Prerequisite(s): MPCS 50103 Math for Computer Science OR successfully passing the MPCS Mathematics Placement exam. MPCS 51036 or 51040 or 51042 or 51046 or 51100 (completed or concurrently taking).

#### MPCS 55003. Intermediate Algorithms. 100 Units.

The course is a second course on the design and analysis of efficient algorithms, with emphasis on developing techniques for the design and rigorous analysis of algorithms rather than on implementation. Emphasis is placed on fundamental algorithms and advanced methods of algorithmic design. Techniques to be covered include network flow, dynamic programming, linear programming, randomization, and approximation algorithms. NP-complete problems and reductions will also be studied. Students who complete the course will have increased familiarity with many of the techniques that apply in the design of efficient algorithms and some acquaintance with problems known to be NP-complete.

Prerequisite(s): 1. MPCS 50103 Immersion Math or passing the placement exam. 2. A course in introductory algorithms. The student should have obtained a B+ or higher in both courses. The prior course in introductory algorithms must cover---- Basic time and space complexity of algorithms, asymptotic order of growth, and solving recurrences. --- Basic graph definitions, breadth-first and depth-first search, and topological ordering, -- Greedy algorithms, shortest paths in a graph, and minimum spanning trees. -- Divide and conquer algorithms, sorting and median selection algorithms. --- Basic data structures, arrays, linked lists, balanced trees, and heaps. If your prior course doesn't cover just one or two of the above topics, you may be allowed to take the course if you are committed to learning those on your own. In that case, or if you have other questions, please email the instructor. In you email include the exact topics covered in your prior course, and a copy of your transcript.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

#### MPCS 55005. Advanced Algorithms. 100 Units.

The course begins with an in-depth study of computational intractability and NP-completeness, and follows it by studying practical algorithms for intractable problems: approximation algorithms and those based on local search. It then looks at how the power of random choices can be harnessed to avoid worst-case situations. The resulting randomized algorithms have been crucial in the success of modern computer systems. The next topic is amortized analysis, an advanced technique used to analyze situations in which algorithms maybe expensive in some of their operations, but are provably efficient over a sequence of operations.

#### Terms Offered: TBD

Prerequisite(s): This course requires a strong command of discrete mathematics, including discrete probability, and introductory algorithms. For discrete mathematics, students should have taken MPCS 50103 Mathematics for Computer Science: Discrete Mathematics and obtained a B+ or higher, or passed the MPCS math placement exam. For introductory algorithms, students must take MPCS 55001 Algorithms and obtained a B+ or higher.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 56420. Bioinformatics for Computer Scientists. 100 Units.

This course aims to introduce computer scientists to the field of bioinformatics. The vast amounts of data produced in genomics related research has significantly transformed the role of biological research. High-throughput automated biological experiments require advanced algorithms, implemented in high-performance computing systems, to interpret their results. We will focus on analyzing complex data sets in the context of biological problems. Students will design and implement systems that are reliable, capable of handling huge amounts of data, and utilize best practices in interface and usability design to accomplish common bioinformatics related problems. While this course should be of interest for students interested in biological sciences and biotechnology, techniques and approaches taught will be applicable to other fields. This course will present a practical, hands-on approach to the field of bioinformatics. The topics covered in this course will include: software, data mining, high-performance computing, mathematical models and other areas of computer science that play an important role in bioinformatics. Existing methods for analyzing genomes, sequences and protein structures will be explored, as well as computing infrastructure that support their efficient utilization. Students will be introduced to all of the biology necessary to understand the applications of bioinformatics algorithms and software taught in this course. Instructor(s): Andrew Binkowski Terms Offered: Spring

Prerequisite(s): MPCS 53001 and 51036 or 51040 or 51042 or 51046 or 51100. Lectures and demonstrations will be conducted in Python. Python programming experience will be useful, but is not required as long as students are willing to dedicate sufficient time to obtain basic development and debugging skills in the language. The course is focused on developing solutions to biological problems, not on mastery of any particular language. Final projects will be implemented on Google Could Platform which supports Python, Java, PHP and Go.

Note(s): All non-MPCS students must meet the course prerequisites and complete the MPCS course request form for approval to register. (https://masters.cs.uchicago.edu/page/course-requests)

# MPCS 56511. Introduction to Computer Security. 100 Units.

This course introduces computer security principles and practices. Topics will range from classical cryptography to recent web application security risks listed in the OWASP Top 10. The course will emphasize both offense (i.e., attacker mindset) and defense (i.e., designing and building secure systems). Topics: # Threat modeling # Cryptography # TLS and HTTPS # Web application security # Network security # Authentication and access control # Memory safety and isolation # Trusted computing # Side channels # Anonymity and web privacy # Underground economy # Human factors # Security ethics # Cryptographic policy

# Instructor(s): William Conner Terms Offered: Winter

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100. MPCS 52011 recommended. Familiarity with C, Java, and/or Python (required). Familiarity with Linux command line (recommended, but not required) Non MPCS students must meet prerequisites and complete the request form http://tinyurl.com/mpcs-courseform.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 56512. Application Security. 100 Units.

This course will introduce secure development practices for networked applications. Application vulnerabilities will be studied to motivate the mitigations presented in the course. Particular emphasis will be placed on Web applications and the OWASP Top Ten. Programming assignments will involve exploiting vulnerabilities and implementing defense mechanisms. Topics # Memory corruption # Code injection # Web vulnerabilities # Authentication and authorization # Session management # Containment and isolation # Cloud security # Secrets management # Threat modeling # Code auditing, testing, and patching

Instructor(s): William Conner Terms Offered: Spring

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100 One of the following courses is required: # MPCS 56511: Introduction to Computer Security # MPCS 52553: Web Development MPCS 52011: Introduction to Computer Systems (recommended, but not required)

Note(s): All non-MPCS students must meet the course prerequisites and complete the MPCS course request form for approval to register. (https://masters.cs.uchicago.edu/page/course-requests)

# MPCS 56530. Applied Cryptography. 100 Units.

This course will introduce both theoretical and practical aspects of cryptography engineering. Topics in the course will range from the design of cryptographic primitives to attacks that exploit flaws in various cryptosystems. In addition to learning how cryptosystems work, students should develop a new appreciation of how difficult it is to avoid cryptographic pitfalls. Instructor(s): William Connor Terms Offered: Autumn

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 56600. Introduction to Blockchain. 100 Units.

This course is a comprehensive technical introduction to relevant topics in the wider ecosystem surrounding blockchain. Our technological focus will include substantive topics in fundamental problems that blockchain is attempting to solve (and is generating), including algorithms, cryptography, security and trust, autopoietic peer-to-peer networking, distributed ledgers, double spending, proof of work and ownership issues, decentralized applications, smart contracts, and supporting technologies. With that said, this is not a course in economics or monetary theory, trading cryptocurrencies, nor is it a course on regulatory or legal issues surrounding blockchain, although we will touch on many of these topics throughout the course. We will also cover broader applications of blockchain technology beyond cryptocurrencies and ICOs including use cases from finance, insurance, science, healthcare, pharmaceuticals.

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51046 or 51100.

Note(s): Non-MPCS students must receive approval from program prior to registering. Request form available online https://masters.cs.uchicago.edu

# MPCS 57002. Independent Study. 100 Units.

TBD

Terms Offered: Autumn Spring Summer Winter

# MPCS 57010. MPCS-Practicum. 100 Units.

This course is meant for MPCS students only. As part of its course offering, the MPCS gives students the option of doing a practicum under the supervision of a faculty or staff member (known as the practicum advisor). This practicum can be counted as elective credit towards the student's Masters degree. During a practicum, a student must develop a well-defined project requiring roughly 100 hours of work throughout a single academic quarter (i.e., an average of 10 hours per week). Throughout the year, the MPCS seeks project proposals from faculty and staff members interested in working with Masters students. These proposals are distributed to our students, who must then apply to work on a specific project. Instructor(s): Andrew Binkowski and Borja Sotomayor

Note(s): This class is not open to non-MPCS students

### MPCS 58001. Numerical Methods. 100 Units.

This is a practical programming course focused on the basic theory and efficient implementation of a broad sampling of common numerical methods. Each topic will be introduced conceptually followed by detailed exercises focused on both prototyping (using matlab) and programming the key foundational algorithms efficiently on modern (serial and multicore) architectures. The ideal student in this course would have a strong interest in the use of computer modeling as predictive tool in a range of discplines -- for example risk management, optimized engineering design, safety analysis, etc. The numerical methods studied in this course underlie the modeling and simulation of a huge range of physical and social phenomena, and are being put to increasing use to an increasing extent in industrial applications. After successfully completing this course, a student should have the necessary foundation to quickly gain expertise in any application-specific area of computer modeling.

Instructor(s): Andrew Siegel Terms Offered: Spring

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100 and MPCS 50103 or receive a passing score on the MPCS math placement exam.

Note(s): All non-MPCS students must meet the course prerequisites and complete the MPCS course request form for approval to register. (https://masters.cs.uchicago.edu/page/course-requests)

#### MPCS 58020. Time Series Analysis and Stochastic Processes. 100 Units.

Stochastic processes are driven by random events. They can be used to model phenomena in a broad range of disciplines, including science/engineering (e.g. computational physics, chemistry, and biology), business/finance (e.g. investment models and operations research), and computer systems (e.g. client/server workloads and resilience modeling). In many cases relatively simple stochastic simulations can provide estimates for problems that are difficult or impossible to model with closed-form equations. In this class we focus on the rudimentary ideas and techniques that underlie stochastic time series analysis, discrete events modeling, and Monte Carlo simulations. Course lectures will focus on the basic principles of probability theory, their efficient implementation on modern computers, and examples of their application to real world problems. Upon completion of the course, students should have an adequate background to quickly learn in depth specific Monte Carlo approaches in their chosen field of interest.

#### Terms Offered: Spring Summer

Prerequisite(s): MPCS 51036 or 51040 or 51042 or 51043 or 51046 or 51100 and MPCS 50103 or receive a passing score on the MPCS math placement exam. Languages: Required: familiarity with C/C++, Python, or Java (other language options are acceptable, but consult instructor first). Recommended: C and Python.

Note(s): All non-MPCS students must meet the course prerequisites and complete the MPCS course request form for approval to register. (https://masters.cs.uchicago.edu/page/course-requests)

MPCS 65000. Reading and Research. 100 Units.



# Master of Science Program in Financial Mathematics

The Department of Mathematics (https://math.uchicago.edu/) offers a separate Master of Science in Financial Mathematics degree. Students of the Financial Mathematics Program (http://www-finmath.uchicago.edu/) develop a thorough understanding of the theoretical background of pricing models for financial derivatives and the underlying assumptions. Moreover, students learn to critically ascertain the applicability and limitations of these various models.

The Financial Mathematics Program offers accelerated, integrated coursework that explores the deep-rooted relationship that exists between theoretical and applied mathematics and the ever-evolving world of finance. Professionals from the financial industry instruct a significant number of classes in the program, using various methods to explore how models behave in practice under a variety of market conditions, as well as to evaluate the validity of underlying assumptions and consequential violations of these assumptions. Students will learn to use these models to set up and evaluate the effectiveness of hedges by simulating various market conditions.

Full-time students following the five-quarter track complete the Financial Mathematics curriculum in five quarters, or 15 months. Part-time students, on average, complete the Program in two to three academic years. The Program must be completed within four academic years from the date of matriculation. For the convenience of our working students, classes meet for three hours on weekday evenings (6pm - 9pm) and are video recorded.

Various software packages and data providers, (including Bloomberg terminals,) are licensed to the Program and will be provided free of charge.

The Financial Mathematics Program seeks candidates with a solid background in mathematics developed through majors such as mathematics, statistics, engineering, science, and economics. Additionally, relevant work experience and experience with computer programming skills, (including C++ and Python) are strongly taken into consideration by the Admissions Committee. We admit driven individuals that come from diverse educational, social, and geographic backgrounds. Candidates should be able to demonstrate excellence in both academics and leadership.

The courses listed below are subject to change each academic year. The current core courses needed for degree completion can be found below:

FINM 33000	Mathematical Foundations of Option Pricing	100
FINM 33150	Regression Analysis and Quantitative Trading Strategies	100
FINM 34000	Probability and Stochastic Processes	50
FINM 36700	Portfolio Theory and Risk Management I	100
FINM 36702	Portfolio Theory and Risk Management II	50
FINM 38500	Career Seminar	000
Computing		400
Electives		450
Total Units		1250

Financial Mathematics Courses

# FINM 31000. Cryptoasset Markets. 000 Units.

This course will introduce students to the terminology and structure of the global cryptoasset market, including a nontechnical overview of the underlying distributed ledger and blockchain technology, as well as current topics and recent developments. It is tailored for students with no prior knowledge. In addition to gaining a better understanding of the interacting layers of this ecosystem, students will leave this course with an understanding of unique data sources available in this space, including shortcomings and limitations of those data sources. There may be some rescheduled classes due to speaker availability.

Instructor(s): Gina Pieters Terms Offered: Summer Note(s): Course meets second half of quarter.

#### FINM 32000. Numerical Methods. 100 Units.

Implementing the theory introduced in Mathematical Foundations of Option Pricing (FINM 33000), this course takes a numerical/computational approach to the pricing and hedging of financial derivatives. Topics include: Trees as diffusion approximations; Finite difference methods for PDE solution; Monte Carlo methods for simulation; Fourier transform methods for pricing.

Instructor(s): R. Lee Terms Offered: Winter Note(s): Computing.

# FINM 32500. Computing for Finance in Python. 100 Units.

This course is intended to teach basic programming concepts and techniques to students desiring to work in the financial sector. It is tailored for students without prior programming experience. At the end of this class, students will have the necessary programming skills to be successful in their daily activities. We will cover the basics: control structures, data structures, functions, algorithms, and debugging. Additionally, we will cover object-oriented design and Python specific data handling. We will work on several projects aimed at building a real trading system.

Instructor(s): Sebastien Donadio Terms Offered: Autumn

Note(s): Students must take at least one of: FINM 32500 and FINM 33160 towards the computing requirement.

# FINM 32600. Computing for Finance in C++ 100 Units.

No previous programming knowledge is assumed. In Computing for Finance in C++, we will introduce the syntax and semantics of C++ and basics of OO programming. As part of the course work, students will develop an OO option pricer using the Monte Carlo technique. Classes are taught using a combination of lectures and in class hands-on lab sessions. Instructor(s): C. Liyanaarachchi Terms Offered: Winter

Note(s): Student must take at least one of FINM 32600 or FINM 32700 towards the computing requirement.

#### FINM 32700. Advanced Computing for Finance. 100 Units.

This course is intended to teach advanced programming concepts and techniques to students desiring to work in the financial sector. It is tailored for students with basic knowledge in C++ programming. At the end of this class, students will have the necessary programming skills to be successful in their daily activities. We will cover the required skills to work as a quantitative researcher: advanced data structures (STL, Boost), parallel programming, inter-process communication, linear algebra computation, simulation and modeling. We will work on several projects aimed at building a real trading system including the implementation of a trading algorithm, handling the connectivity to an exchange/brokerage house and issues related to performance. Classes are taught using a combination of lectures and in class hands-on lab sessions. Instructor(s): S. Donadio Terms Offered: Spring

Note(s): Student must take at least one of FINM 32600 and FINM 32700 towards computing requirement.

# FINM 32850. Case Studies in Computing for Finance. 100 Units.

This course will introduce participants to the field of Computational Finance through real-world "end-to-end" case studies. The course will focus on the importance of data analytics and algorithmic processing and it will be centered around a series of examples that are representative of problems that practitioners in finance have to solve. The course is structured to cover two major themes; 1. Intro to Data analysis and Numerical algorithms in Computational Finance, and 2. Case studies of "end-to-end" system implementations. Prerequisites and recommended background: As a prerequisite, students will be required to have successfully completed two of the following courses: Computing for Finance in Python, Computing for Finance in C++ (or passed the placement exam) and Advanced Computing for Finance. The participants should also have basic familiarity with the use of MS Excel spreadsheets & VBA, as well as with the use of a high level programming language such as Python or R.

Instructor(s): C. Doloc Terms Offered: Autumn

Note(s): Counts towards computing requirement.

# FINM 32950. Introduction to HPC in Finance. 50 Units.

This short course introduces parallel programming and related concepts using some popular technologies (e.g. Intel's family of parallel models, OpenMP, CUDA etc.) at an introductory level. Application performance improvement using a systematic and structured approach is illustrated. Applications in finance are used to illustrate how to exploit parallelism to solve large scale computing problems. No prior knowledge of parallel computing is assumed. Previous coursework in C++ or Python (FINM 32500 or 32600 or 32700), or passing the FINM computing placement exam is required. Instructor(s): C. Liyanaarachchi Terms Offered: Summer

Note(s): Counts towards elective requirement.

# FINM 33000. Mathematical Foundations of Option Pricing. 100 Units.

Introduction to the theory of arbitrage-free pricing and hedging of financial derivatives. Topics include: Arbitrage; Fundamental theorems of asset pricing; Binomial and other discrete models; Black-Scholes and other continuous-time Gaussian models in one-dimensional and multidimensional settings; PDE and martingale methods; Change of numeraire. Program requirement.

Instructor(s): R. Lee Terms Offered: Autumn

# FINM 33150. Regression Analysis and Quantitative Trading Strategies. 100 Units.

Quantitative trading strategies, employing investment decisions based on model output, are a major component of business operations in the finance industry worldwide. We will present the major components of these strategies as found in several asset classes (equities, futures, credit, FX, interest rates and energy). A large proportion of the models involved in quantitative strategies are expressible in terms of regressions. We will cover most of the ways they are used, including practical tricks and considerations, and concentrating particularly on achieving trustworthy performance. Mathematically, we will cover the computation of linear regressions with and without weights, in univariate and multivariate cases, having least squares or other objective functions. Of the major computation technologies actively used by the finance industry (C/C++, Matlab, Java, R, VB/Excel, C\#, Python) we have chosen R and Python for numerical computation, with (very) light usage of Excel and with data coming from Quandl and some proprietary sources. Program requirement. Instructor(s): B. Boonstra Terms Offered: Spring

# FINM 33160. Machine Learning in Finance. 100 Units.

The course will focus on two Machine Learning categorization models: Logistic Regression and Support Vector Machines, both binary and multi-category. The course will develop the mathematical foundations for these models and the optimization algorithms for training them on actual data. The algorithms will be implemented in Python. The necessary parts of Python programming will be taught along the way as they are needed. The Machine Learning models will be used to train models for trading stocks based on both fundamental and technical data. The models will be implemented in Python, using several Machine Learning libraries such as Scikitlearn and back-tested using the web service Quantopian. At the end of the course, the students will develop and implement their own trading models and analyze the performance of their models. Instructor(s): N. Nygaard Terms Offered: Winter

Prerequisite(s): FINM 32500 or Python waiver.

Note(s): Students must take at least one of FINM 32500 and FINM 33160 towards computing requirement.

## FINM 33165. Probabilistic Programming and Deep Learning. 100 Units.

The course is a continuation of the course Machine Learning in Finance and introduces Deep Learning models i.e. Artificial Neural Networks (ANN). We will develop the training algorithms for Deep Learning Networks in particular Stochastic Gradient Descent and discuss how an ANN can be thought of as a composition of the models developed in the previous course. We will also study the Bayesian aspects of ANNs. After the basic properties are developed we will turn to Convolutional Deep Learning models and apply them to analyzing patterns in financial data and forecasting short tern price movements. The results from the Deep Learning approach will be used to develop trading strategies and comparing results from these strategies to results obtained from simpler Machine Learning models. The course uses the Python programming languages and several packages implementing Deep learning models, Theano, Tensorflow and Keras, as well as Scikitlearn and we will spend a significant amount of time learning to master these packages. We will also discuss how the use of GPU computing can dramatically increase the computational performance of the implementations of training algorithms. The course can be followed without having taken the previous course if one is willing to read up on the Machine Learning models and the training algorithms discussed in that course. A working knowledge of Python will be assumed. Instructor(s): N. Nygaard Terms Offered: Autumn

Prerequisite(s): FINM 33160 or FINM 33161/33162 or Consent of Instructor Note(s): Counts towards computing requirement.

FINM 33170. Financial Statistics: Time Series, Forecasting, Mean Reversion, and High Frequency Data. 100 Units.

This course is an introduction to the econometric analysis of high-frequency financial data. This is where the stochastic models of quantitative finance meet the reality of how the process really evolves. The course is focused on the statistical theory of how to connect the two, but there will also be some data analysis. With some additional statistical background (which can be acquired after the course), the participants will be able to read articles in the area. The statistical theory is longitudinal, and it thus complements cross-sectional calibration methods (implied volatility, etc.). The course also discusses volatility clustering and market microstructure.

Terms Offered: Winter

Prerequisite(s): Some statistics/econometrics background as in STAT 24400–24500, or FINM 33150 and FINM 33400, or equivalent, or consent of instructor.

Equivalent Course(s): STAT 33910

# FINM 33180. Multivariate Data Analysis via Matrix Decompositions. 100 Units.

This course is about using matrix computations to infer useful information from observed data. One may view it as an "applied" version of Stat 30900 although it is not necessary to have taken Stat 30900; the only prerequisite for this course is basic linear algebra. The data analytic tools that we will study will go beyond linear and multiple regression and often fall under the heading of "Multivariate Analysis" in Statistics. These include factor analysis, correspondence analysis, principal components analysis, multidimensional scaling, linear discriminant analysis, canonical correlation analysis, cluster analysis, etc. Understanding these techniques require some facility with matrices in addition to some basic statistics, both of which the student will acquire during the course. Program elective.

Instructor(s): L. Lim Terms Offered: Autumn

Equivalent Course(s): STAT 32940, CAAM 32940

#### FINM 33601. Fixed Income Derivatives. 100 Units.

The topics in this course include an introduction to fixed income markets, a detailed review of fixed income derivative instruments, and a general approach to bootstrapping the LIBOR term curve from available market quotes. We also discuss the application of the Black-Scholes-Merton model to pricing European swaptions and caps/floors. Students will study a statistical approach to building a foundation for the Heath-Jarrow-Morton framework of interest rate models. Students should be prepared for the extensive use of Stochastic Calculus.

Instructor(s): Y. Balasanov, L. Doloc, J. Greco Terms Offered: Spring

Note(s): Counts towards elective requirement.

#### FINM 34000. Probability and Stochastic Processes. 50 Units.

This course provides a mathematical introduction to probability and stochastic processes. While the main focus is discrete probability and combinatorial analysis, some continuous probability is discussed. Examples and applications are emphasized over theory.

Instructor(s): Charles Smart Terms Offered: Autumn. This course takes place in the first five weeks of the quarter. Note(s): Required.

#### FINM 34510. Introduction to Stochastic Calculus. 50 Units.

The course starts with a quick introduction to martingales in discrete time, and then Brownian motion and the Ito integral are defined carefully. The main tools of stochastic calculus (Ito's formula, Feynman-Kac formula, Girsanov theorem, etc.) are developed. The treatment includes discussions of simulation and the relationship with partial differential equations. Some applications are given to option pricing, but much more on this is done in other courses. The course ends with an introduction to jump process (Levy processes) and the corresponding integration theory. Terms Offered: Winter

Prerequisite(s): Consent of instructor.

Equivalent Course(s): STAT 39010

#### FINM 35000. Topics in Economics. 100 Units.

This course deals with the microeconomic foundations of financial decision making and their implications for the real economy. We will study how firms optimally chose their financing strategy and what are the consequences of firm-level frictions on investments and capital structure. We will begin with the theories of classical corporate finance, optimal contracting, collateralized lending and managerial compensation. Then, we will explore the consequences of asymmetric information between agents on security design and asset markets. Financial constraints naturally emerge from these frameworks and we will study their macroeconomic implication. Money and monetary policy will be discussed, with a particular focus on the effects of monetary policy on financial markets. Specific attention will be paid to financial intermediaries and banks, in their dual role as investment vehicles and liquidity providers, thus leading to a discussion of the economics of securitization, liquidity demand and provision and bank runs. If time permits, in the final part of the class we will introduce dynamic models, often in continuous time, in order to study optimal asset management. Instructor(s): Xian Philip Xu Terms Offered: Autumn

Note(s): Program elective.

# FINM 35500. Corporate and Credit Securities. 100 Units.

This course analyzes corporate and credit-sensitive securities, including private equity and corporate debt. Students will use financial statements to estimate risk, forecast cash flows and value real options. The class considers the implications for event-driven trading strategies and portfolio management. Additionally, it covers key issues in corporate finance that are relevant for quantitative analysis of corporate securities and credit markets. Instructor(s): Mark Hendricks Terms Offered: Spring

Note(s): Elective.

#### FINM 35910. Applied Algorithmic Trading. 50 Units.

Applied Algorithmic Trading will introduce the required background knowledge and processes necessary for the design and implementation of algorithmic trading models within the context of industry requirements. The objective of the course is to bring together the numerous disciplines covered in other Financial Mathematics courses, focused on quantitative trading, and combine them into a workable industry level presentation. This course will walk students through the process of generating trading ideas, quantifying the trading process, risk-based modeling concepts, back-testing and optimization techniques, and key industry metrics used to evaluate algorithmic trading model performance. Lastly, the course will stress the leadership and presentation skills necessary to make a successful pitch in an industry setting. Program elective. Instructor(s): Chris Gersch Terms Offered: Autumn

Prerequisite(s): FINM 32400, FINM 33150, or consent of instructors

#### FINM 36000. Project Lab. 50 Units.

Program elective.

Instructor(s): R. Lee Terms Offered: Autumn,Spring,Summer,Winter Prerequisite(s): Consent of instructor.

# FINM 36001. Project Lab 2. 000 Units.

Program elective. Instructor(s): R. Lee Terms Offered: Autumn,Spring,Summer,Winter Prerequisite(s): FINM 36000 and consent of instructor.

## FINM 36700. Portfolio Theory and Risk Management I. 100 Units.

The course begins by covering the classic foundations of portfolio theory, including mean-variance mathematics and the standard equity factor models used in attribution and risk management. It goes beyond these classic results to cover return dynamics, statistical uncertainty, model selection, market frictions, and non-convex optimization. Throughout, the course examines issues of application and implementation relevant for professionals in various areas of quantitative finance. Case studies cover a range of asset classes, investment strategies, and industries. Instructor(s): Mark Hendricks Terms Offered: Autumn

Note(s): Program requirement.

# FINM 36702. Portfolio Theory and Risk Management II. 50 Units.

This course combines a technical topic with an analysis of situations that produce outsized losses. Students gain familiarity with the credit portfolio loss models that are used to limit trading, allocate costs, and determine required bank capital. They also review the interplay between the technical and human factors that has led to prominent risk control failures. Unique in the Financial Math program, students make in-class presentations that detail the optimal responses of various market participants to unexpected circumstances.

Instructor(s): Jon Frye Terms Offered: Winter

Prerequisite(s): FINM 36700 Portfolio Theory and Risk Management I

Note(s): Required. This is a five-week course taught in the first-half of the quarter.

# FINM 37301. Foreign Exchange: Markets, Pricing and Products. 50 Units.

This course will examine international currency markets, financial products, and applications of quantitative models with an emphasis on the quantitative methods and derivative products in common use today. Topics will include a) pricing for FX products in theory and in practice, specifically spot, forward, futures, deposits, cross-currency swaps, non-deliverable contracts, and FX options, b) FX markets in practice, exchange rate regimes, international monetary systems, FX modeling and forecasting, and c) practical market applications of FX options, exotic options, and hybrid products.

Instructor(s): Anthony Capozzoli Terms Offered: Winter

Note(s): Counts towards elective requirement. This is a five-week course taught in the second-half of the quarter.

#### FINM 37601. Mathematical Market Microstructure: An Optimization Approach. 50 Units.

Mathematical Market Microstructure: An Optimization Approach for Dynamic Inventory Management and Market Maker Quoting. This course is an introduction to mathematical theory of market microstructure, with key applications in solving optimal execution problems with inventory management. We will start from discussions of market design, global market structure, algorithmic trading and market making practices. We will then present traditional market microstructure theory in the context of dealer inventory management and information-based quoting and pricing. Latest literature about realized volatility calculations and intraday implied volatility surface modeling using high-frequency data will be reviewed. The subject of order book dynamics research with applications to market impact modeling will be discussed as well. Finally, a review on continuous-time stochastic control theory will be provided and a discussion will be given on execution algorithm development and market making strategy design using stochastic programming techniques. The main goal of this course is to provide a clear discussion on key mathematical treatments and their practical applications of market microstructure problems, in particular relating to price discovery and utility optimization for certain transaction processes with non-trivial transaction cost present. Program elective.

Instructor(s): H. Chou Terms Offered: Autumn

Note(s): This is a five-week course taught in the first half of the quarter.

#### FINM 37602. Mathematical Market Microstructure w/o Rationality Assumptions. 50 Units.

Just like the view on micro world made us rethink our theories about the laws of physics previously based on macro world experience, algorithmic trading at extremely low latency exposes us to new phenomena and demands new mathematical models for their analysis. Objectives of this course are: introducing students to some models that have become important for analysis of market microstructure in recent years and show how they can be applied to low latency trading and risk management. We start with a review of the main features of the market behavior at ultra-low latency, explain why we prefer to look at the market events with "frog's eye" and concentrate on mathematical models consistent with Principle of Ma. During the course we study stochastic processes that describe market behavior at the microstructure level. Among them are Poisson, Cox, Ammeter, Hawkes and other processes. Students will learn how simulate each of the processes, fit it to market data and interpret the results. We will relate these processes to common approaches to modeling market price formation and limit order book behavior. Demonstrations and applications will be implemented in R. Students will work with some real market data examples. Classes consist of lecture part and in-class workshop. Students are required to come with their laptop computers with installed R. Some background in probability theory, statistical methods and statistical data analysis with R is recommended.

Instructor(s): Y. Balasanov Terms Offered: Autumn

Note(s): This is a five-week course taught in the second half of the quarter.

# FINM 38000. Financial Mathematics Practicum. 000 Units.

## Program elective.

Instructor(s): Roger Lee Terms Offered: Autumn Spring Summer Winter

#### FINM 38001. Financial Mathematics Practicum II. 50 Units.

Elective. Student must be CPT-approved by FINM and OI Instructor(s): Roger Lee Terms Offered: Autumn Spring Summer Winter

#### FINM 38500. Career Seminar. 000 Units.

Presentations/workshops/networking events related to career development in quantitative finance. Program requirement. Instructor(s): Career Development Office Terms Offered: Autumn Spring Winter

# FINM 39100. Model Risk, Counterparty Risk, and Systemic Risk from a Regulatory and Risk Management Perspective. 50 Units.

The course introduces students to the key risks in the banking and capital markets sectors and the associated regulatory, risk management, and compliance requirements for financial institutions with a focus on the requirements of the Dodd-Frank Act (DFA). Over the last ten years DFA has transformed the risk management and compliance professions, requiring sophisticated quantitative modeling to calculate regulatory capital and to otherwise meet regulators' expectations. Model risk management (MRM) now extends into all areas of the financial markets. In a course-long homework, students apply the core principles of MRM following Federal Reserve stress testing requirements based on a sample bank portfolio. Students also learn the primary components of a financial institution's corporate governance, supervision, internal controls, management of conflicts of interest, and gain an understanding of a risk-management system optimally designed to achieve a firm's business objectives as well as compliance with the DFA. Case studies illustrate both risk management breakdowns and best practices, including the "quant quake" of August 2007 in which highly leveraged quantitative-trading hedge funds incurred significant losses.

Instructor(s): Alexander Dill Terms Offered: Spring

Note(s): Program elective. This is a five-week course taught in the first half of the quarter.


# Master of Science Program in the Physical Sciences

#### Director

Mark Oreglia

### Program Description

The Master of Science Program in the Physical Sciences Division (MS-PSD) (http://mspsd.uchicago.edu/) at the University of Chicago is a program designed for students who wish to broaden or deepen their knowledge of the physical and mathematical sciences or to acquire new technical skills. It should be especially valuable to those seeking to prepare for further graduate work, including those who wish to prepare for a graduate program in a field outside of their undergraduate major. MS-PSD students have the opportunity to take undergraduate and graduate courses offered by the University of Chicago (except in some of the professional programs), and also to work with faculty members in Astronomy & Astrophysics (http://astro.uchicago.edu/), Biophysical Sciences, (http://biophysics.uchicago.edu/) Chemistry (http://chemistry.uchicago.edu/), Geophysical Sciences (http://goosci.uchicago.edu/), Mathematics (http:// www.rath.uchicago.edu/), and Physics (http://physics.uchicago.edu/), and to take supplemental coursework in Computer Science (http://www.cs.uchicago.edu/), Computational and Applied Mathematics (http://cam.uchicago.edu/), Financial Mathematics (http://finmath.uchicago.edu/), and Statistics. (http://www.stat.uchicago.edu/)

The MS-PSD program allows students, in consultation with the Faculty Director, to design programs of study to meet individual student needs. This flexibility combined with the rigor of UChicago courses makes the program unique.

Students normally complete the M.S. in Physical Sciences in nine months (three quarters). The program is administered by the PSD Dean of Students office and directed by Professor Mark Oreglia, Professor in the Department of Physics, the Enrico Fermi Institute, and the College.

#### Courses and Master's Project

MS-PSD students are required to complete a total of nine courses, including a master's thesis project. Five of those courses must be graduate-level subjects, and four of these five courses must be taken in the same department. In addition, students must either (1) complete a master's thesis project, or (2) take two additional graduate subjects in their principal department, for a total of six out of nine courses in that core department. Students choose from quarterly course offerings (https://coursesearch.uchicago.edu/psc/prdguest/EMPLOYEE/HRMS/c/ UC\_STUDENT\_RECORDS\_FL.UC\_CLASS\_SEARCH\_FL.GBL) in physical sciences departments. At least four of the courses must be graduate-level courses in a single department or associated with a specific interdepartmental track, such as environmental science, biochemistry/physics, computational methods in physical science, and optics/imaging. To accommodate students who seek to broaden their knowledge of the physical sciences as well as those seeking to transition to a new field, students may be allowed to take as many as three advanced undergraduate courses in fields outside of their undergraduate majors. In all cases the Director must approve the chosen curricula.

For experimentalists, a typical master's project might consist of performing or assisting with a laboratory research experiment. For theorists, a typical master's project might consist of performing some numerical simulation experiments. Students normally choose their projects in the winter quarter, carry them out during the spring quarter, and summarize their projects' results in a required master's paper.

#### Questions

Prospective or current students should contact the appropriate dean in the Physical Sciences Division with questions about the program and/or the application process:

## **Prospective Students:**

Laura Rigazzi, Associate Dean of Students for Recruitment and Admission

773-702-9708

lrigazzi@uchicago.edu

Current Students:

Sierra Sterling, Assistant Dean of Students

773-702-3192

ssterlin@uchicago.edu



# Department of Astronomy and Astrophysics

## Chair

John E. Carlstrom

Professors

- John E. Carlstrom
- Fausto Cattaneo
- Hsiao-Wen Chen
- Wendy L. Freedman
- Joshua A. Frieman
- Michael D. Gladders
- Nickolay Y. Gnedin
- Doyal A. Harper, Jr.
- Craig J. Hogan
- Dan Hooper
- Wayne Hu
- Daniel E. Holz
- Edward W. Kolb
- Andrey V. Kravtsov
- Richard G. Kron
- Angela V. Olinto
- Paolo Privitera
- Robert Rosner

Associate Professors

- Jacob L. Bean
- Bradford A. Benson
- Daniel Fabrycky
- Jeffrey McMahon

Assistant Professors

- Damiano Caprioli
- Chihway Chang
- Clarence L. Chang
- Alex Drlica-Wagner
- Leslie Rogers
- Erik Shirokoff
- Irina Zhuravleva

Emeritus Faculty

- Kyle M. Cudworth
- Roger H. Hildebrand
- Lewis M. Hobbs
- Edward J. Kibblewhite
- Arieh Königl
- Donald Q. Lamb, Jr.
- Stephan S. Meyer
- Richard H. Miller
- Takeshi Oka
- Patrick E. Palmer
- Eugene N. Parker
- Noel M. Swerdlow
- James W. Truran, Jr.

- Michael S. Turner
- Peter O. Vandervoort
- Donald G. York

Research Faculty

- Thomas Crawford
- Vikram Dwarkadas
- Priscilla Frisch
- Richard Kessler
- Brian Nord
- Andreas Seifahrt

Faculty in the Department of Astronomy and Astrophysics work on a wide range of topics at the frontiers of astrophysics: from understanding the beginning of the Universe to the search for habitable extrasolar planets; from the formation and evolution of the earliest galaxies to modeling the most energetic events in the modern Universe; from exploring our own solar system to the largest structures of the Universe. The department participates in major facilities that support the programs of our research groups. Many of these projects take advantage of connections with the neighboring national laboratories, Argonne and Fermilab, for both intellectual and technical resources. Research groups have access to leading telescopes worldwide, including the 6.5-m Magellan Telescopes at Las Campanas, Chile; the Dark Energy Survey at Cerro Tololo Inter-American Observatory in Chile; and the South Pole Telescope, with its ongoing development of powerful new imagers for measuring the Cosmic Microwave Background. Departmental researchers also make use of a number of telescopes (Hubble, Kepler, Chandra, Fermi, and others) and are actively developing new programs for EUSO, POEMMA, JWST, WFIRST, TESS, SOFIA and LSST. Chicago is an active participant in gravitational waves research as a member of LIGO, leading the development of the Holometer at Fermilab, and studying extreme cosmic particles at the Auger Observatory. We are a founding member of the world's largest optical telescope, the 25-meter Giant Magellan Telescope, which is now under construction in the Chilean Andes with first light expected toward the end of the decade.

## Program Requirements

The requirements for the Ph.D. degree in Astronomy and Astrophysics are satisfied through the following steps:

- Completion of required core graduate courses
- Full-time scholastic residence of at least 300 units of coursework per quarter, including summer
- · Completion of one to three pre-candidacy research projects
- Successful completion of a two-part Candidacy Exam
- Identification of a Thesis Advisor
- Formation of a Thesis Committee
- Thesis research and preparation
- Final Examination

## Advising/Mentoring

Incoming students are assigned a faculty mentor who will advise and guide the student as they navigate the graduate program. Students are invited to seek out potential research supervisors as early as possible. Engagement with research is encouraged and supported by the program structure and through departmental events. Each week there are various talks, seminars, and colloquia highlighting current research by departmental members and visitors that bring together students, faculty, research scientists and post-docs as a vibrant intellectual community. These occasions help facilitate discovery of research areas and projects that may be of interest to incoming students.

## **Course Requirements**

During the first and second years, students complete one core course per academic quarter, and may choose to take elective courses. The core courses are:

- ASTR 30100 Stars
- ASTR 30300 Interstellar Matter
- ASTR 30400 Galaxies
- ASTR 31000 Cosmology I
- ASTR 31100 High Energy Astrophysics
- ASTR 30600 Detection of Radiation

In addition, first- and second-year students enroll in ASTR 35000 Order-of-Magnitude Astrophysics for one quarter and ASTR 49900 Graduate Research Seminar for up to five quarters.

#### Research

A significant fraction of time in the first two years is devoted to research projects. This work, organized as ASTR 37100 Precandidacy Research, is presented as part of the two-part Candidacy Exam taken in the Autumn and Spring Quarters of the second year. Advancement to candidacy is made when a student has successfully passed the two-part Candidacy Exam and established a Thesis Committee. After candidacy is established, students enroll in ASTR 49400 Post-Candidacy Research and may also take electives of advanced coursework.

#### Dissertation and Final Examination

The Ph.D. thesis may be a single-author or multiple-author paper that is submitted to a research journal of high quality and judged to be suitable for publication by the student's full Thesis Committee. This research is presented to the Thesis Committee in a Final Examination to engage in dialogue and debate, and receive constructive criticism. Final examinations are public events attended by the departmental community.

#### Contacts

For general information about application procedures, please contact the Student Affairs Administrator, Laticia Rebeles, Irebeles@astro.uchicago, (773) 702-9808. Additional information regarding the academic program is available on the Department of Astronomy and Astrophysics (https://astrophysics.uchicago.edu/) website.

#### Astronomy and Astrophysics Courses

## ASTR 30100. Stars. 100 Units.

Introduction to stars (physical and observational), hydrodynamics of self-gravitating fluids, statistical mechanics and equations of state, energy transport, astrophysical nuclear reactions, stellar models, advanced topics. Instructor(s): Daniel Fabrycky Terms Offered: Autumn

Prerequisite(s): Open to advanced undergraduates by consent of instructor.

#### ASTR 30300. Interstellar Matter. 100 Units.

Interstellar medium, collision-less systems, distribution of stars in the solar neighborhood, stellar kinematics/dynamics, observations of galactic large-scale structure, theory of galactic structure and evolution.

Instructor(s): Hsiao-Wen Chen Terms Offered: Autumn

Prerequisite(s): Open to advanced undergraduates by consent of instructor.

## ASTR 30400. Galaxies. 100 Units.

The observed universe, the universe at high redshift, early universe microwave background radiation, relativistic homogeneous isotropic cosmologies, evolution of structure in the universe, primordial nucleosynthesis. Instructor(s): Irina Zhuravleva Terms Offered: Spring Prerequisite(s): Open to advanced undergraduates by consent of instructor.

## ASTR 30600. Detection of Radiation. 100 Units.

Radiation as a random process, optical coherence, and signal analysis in spatial and temporal domains, along with the detection and measurement of radiation with astronomical instruments.

Instructor(s): Brad Benson Terms Offered: Spring

Prerequisite(s): Open to advanced undergraduates by consent of instructor.

#### ASTR 31000. Cosmology I. 100 Units.

This course presents an introduction to the principles of cosmology. The first part introduces homogeneous, relativistic cosmologies and covers the Robertson-Walker metric, dynamics in the presence of matter, radiation, and dark energy, the universe as a function of time and redshifts, and techniques for calculating observable quantities. The next part covers the growth and evolution of structure in the universe including the formation of clusters and voids, correlation functions, and the mass spectrum. The next part covers the physics of the early universe, including inflation, primordial nucleosynthesis, and recombination. The final part covers current topics in cosmology, including analysis of the cosmic microwave background and tests for detecting and measuring dark matter and dark energy.

Instructor(s): Craig Hogan Terms Offered: Winter

Prerequisite(s): Open to advanced undergraduates by consent of instructor.

#### ASTR 31100. High Energy Astrophysics. 100 Units.

This course covers a wide range of phenomena associated with the astrophysics of high energy photons, cosmic rays and neutrinos, including the processes of ionization, bremsstrahlung, synchrotron, pion production, Compton and inverse Compton scattering, as well as cosmic ray acceleration. Specific sources of high energy emission will also be discussed, including active galaxies, pulsars, gamma-ray bursts and supernova remnants.

Instructor(s): Damiano Caprioli Terms Offered: Winter

Prerequisite(s): Open to advanced undergraduates by consent of instructor.

## ASTR 31200. Computational Techniques in Astrophysics. 100 Units.

This course will introduce basic computational techniques most often used in astronomical research, such as interpolation, transforms, smoothing, numerical differentiation and integration, integration of ordinary differential equations, and Monte Carlo methods, and elements of basic computer algorithms, data structures, and parallel programming using Python as the main course programming language with heavy use of NumPy, SciPy, and Matplotlib packages. Practical examples where these numerical techniques are applied will be covered via homework and in class exercises using real-world astronomical problems and results of recent papers with emphasis on implementing the algorithms from scratch. The course will cover the access to astronomical archival data, and how to search it efficiently, focusing specifically on the Sloan Digital Sky Survey, but with introduction to other data sets. Machine learning methods will be introduced to illustrate how large data sets can be mined for interesting information.

Instructor(s): Andrey Kravtsov Terms Offered: Spring

Prerequisite(s): ASTR 20500 or CMSC 12100 or consent of instructor.

Equivalent Course(s): ASTR 21100

## ASTR 31400. Creative Machines and Innovative Instrumentation. 100 Units.

An understanding of the techniques, tricks, and traps of building creative machines and innovative instrumentation is essential for a range of fields from the physical sciences to the arts. In this hands-on, practical course, you will design and build functional devices as a means to learn the systematic processes of engineering and fundamentals of design and construction. The kinds of things you will learn may include mechanical design and machining, computer-aided design, rapid prototyping, circuitry, electrical measurement methods, and other techniques for resolving real-world design and fabrication with others, you will complete a mini-project and a final project, which will involve the design and fabrication of a functional scientific instrument. The course will be taught at an introductory level; no previous experience is expected. The iterative nature of the design process will require an appreciable amount of time outside of class for completing projects. The course is open to undergraduates in all majors (subject to the pre-requisites), as well as Master's and Ph.D. students.

Instructor(s): Stephan Meyer and Erik Shirokoff Terms Offered: Winter

Prerequisite(s): PHYS 12200 or PHYS 13200 or PHYS 14200; or CMSC 12100 or CMSC 12200 or CMSC 12300; or consent of instructor.

Equivalent Course(s): CHEM 21400, PSMS 31400, ASTR 21400

## ASTR 33000. Computational Physics and Astrophysics. 100 Units.

Basic computational methods useful for astrophysics, supplemented by specific examples drawn primarily from astrophysics. Starting with basics (e.g., precision, errors and error analysis) and basic computational methods (differentiation, integration/quadrature, Monte Carlo, numerical linear algebra), and then discussing solution of problems posed in terms of ordinary and partial differential equations.

Instructor(s): Andrey Kravtsov Terms Offered: Not offered in 2020-2021.

Prerequisite(s): Open to advanced undergraduates by consent of instructor.

## ASTR 35000. Order-of-Magnitude Astrophysics. 100 Units.

In physics and astrophysics, an approximate answer is often just as (if not more) useful than an exact answer. Making orderof-magnitude estimates is helpful to develop physical intuition, to verify numerical solutions, and to evaluate whether a research problem is worth pursuing. In this course, students will receive coaching and practice in physics-based reasoning, back-of-the envelope estimation, and thinking on their feet. Students will be encouraged to take a broad perspective, to think critically, and to have fun using physics to understand the universe around them.

Instructor(s): Leslie Rogers Terms Offered: Autumn

Note(s): Open to 3rd and 4th year undergraduates in the Physical Sciences by instructor consent.

Equivalent Course(s): ASTR 25000

## ASTR 35800. Astrophysics of Exoplanets. 100 Units.

Extrasolar planets, a.k.a. exoplanets, are planets orbiting other stars. First definitively detected in the mid 1990s, the planet count has rapidly expanded and their physical characterization has sharpened with improved observational techniques. Theoretical studies of planetary formation and evolution are now attempting to understand this statistical sample. The field also aspires to address questions about life in the universe. This course emphasizes hands-on activities, like working with real astronomical data to find and characterize exoplanets. Topics are the radial velocity, transit, and other discovery and characterization techniques; statistical distributions of known planets; comparisons among planet structure and planetary system types; formation in a protoplanetary disk and subsequent dynamical evolution; the goal of finding life on an exoplanet; colonization of exoplanets; and the Fermi paradox.

Instructor(s): Jacob Bean and Daniel Fabrycky Terms Offered: Spring

Prerequisite(s): ASTR 24100 and PHYS 23400 or PHYS 23410; or consent of instructor.

Equivalent Course(s): GEOS 32080, ASTR 25800

## ASTR 35900. Physics of Planetary Interiors. 100 Units.

This course considers the physical processes governing the interior structure and evolution of planets, both those orbiting the Sun and exoplanets. Topics include an introduction to condensed matter physics relevant to planet interiors; properties of planetary materials; observational constraints; planet modeling; thermal histories; differentiation and core formation; connection to planetary atmospheres; and magnetic field generation.

Instructor(s): Leslie Rogers Terms Offered: Winter. Not offered in 2020-2021.

Prerequisite(s): Open to third- and fourth-year undergraduate students majoring in Astrophysics, Physics or the Geophysical Sciences, or students who have completed two quarters of Calculus.

## ASTR 37100. Precandidacy Research. 300.00 Units.

Students arrange with a faculty research supervisor to conduct a short-term independent research project lasting one or more quarters. Research completed in ASTR 37100 is presented as part of the student's candidacy exams. Instructor(s): Rich Kron Terms Offered: Autumn Spring Summer Winter

## ASTR 38400. Gravitational Wave Astrophysics. 100 Units.

With LIGO's detection of gravitational waves from the merger of two black holes, the era of gravitational-wave astronomy has arrived. The detection of gravitational waves and photons from the merger of two neutron stars was similarly revolutionary. This class will explore the basics of gravitational-wave sources and detection. We will discuss recent results, and explore the future promise of gravitational-wave astrophysics and cosmology. Instructor(s): Daniel Holz Terms Offered: Winter

## ASTR 40600. Gravitational Lensing. 100 Units.

Theory of bending of light by gravitational potentials followed by astrophysical and cosmological applications including: microlensing, planetary searches, strong lensing, and weak lensing. In different years, a subsample of these topics may be taught, based on interests of the instructor.

Instructor(s): Chihway Chang Terms Offered: Autumn

## ASTR 40800. The Perturbed Universe. 100 Units.

This seminar course will cover inflation as the source of structure in the universe and its observational signatures. Topics will include relativistic perturbation theory, canonical and general single field inflationary models, primordial non-Gaussianity, and gravitational waves.

Instructor(s): Wayne Hu Terms Offered: Autumn. Not offered in 2020-2021.

## ASTR 43000. Plasma Astrophysics. 100 Units.

This course will give a general introduction to the theory of plasmas with particular emphasis on processes of astrophysical interest. Topics presented will include: Physical description of a plasma and plasma parameters: Debye length, plasma frequency, cyclotron frequency, Larmor radius; single particle motion and adiabatic invariants; kinetic theory and the Vlasov equation; magneto-hydro-dynamics and dynamo theory; plasma waves; waves in a cold and hot plasma/plasmas; Landau damping; collisional processes.

Instructor(s): Fausto Cattaneo Terms Offered: Spring. Not offered in 2020-2021.

## ASTR 44800. Cosmic Microwave Background. 100 Units.

The first half of the course will be lectures with the goal of establishing a common denominator, and the second half will be research. The course requires a final project to be presented in class.

Instructor(s): Wayne Hu Terms Offered: Not offered in 2020-2021.

Prerequisite(s): Prerequisites are graduate-level cosmology and general relativity.

## ASTR 45900. What Makes a Planet Habitable? 100 Units.

This course explores the factors that determine how habitable planets form and evolve. We will discuss a range of topics, from the formation of planets around stars and the delivery of water, to the formation of atmospheres, climate dynamics, and the conditions that allow for the development of life and the evolution of complex life. Students will be responsible for periodically preparing presentations based on papers in peer-reviewed journals and leading the discussion. This course is part of the College Course Cluster program: Climate Change, Culture and Society.

Instructor(s): Edwin Kite Terms Offered: Winter

Equivalent Course(s): GEOS 32060, GEOS 22060

## ASTR 46100. Dynamics of Exoplanets. 100 Units.

Exoplanets are planets that orbit other stars. As most detection methods are indirect, planets' orbital dynamics is key to basic characterization, and it was historically important to confirm their existence. Their surprising orbital properties challenged planet formation and evolution theories, prompting further development of dynamical theories. This course covers orbital mechanics of N-body systems from the short-term, relevant to observations such as transit-timing variations, all the way to billion-year timescales, relevant to the dynamical winnowing of unstable systems. It covers highly eccentric and inclined orbits, scattering and resonant dynamics, planetary orbits in binary star systems, the additional physics of tidal dissipation and orbital migration due to a gas disk, and current research topics.

Instructor(s): Daniel Fabrycky Terms Offered: Not offered in 2020-2021.

## ASTR 49400. Post-Candidacy Research. 300.00 Units.

Independent research undertaken towards completion of the dissertation. Instructor(s): Rich Kron Terms Offered: Autumn Spring Summer Winter Prerequisite(s): Completion of all candidacy requirements.

## ASTR 49900. Graduate Research Seminar. 100 Units.

The instructor chooses a topic for the seminar and assigns papers that develop the topic from the earliest times to the most recent results. Students each present papers during the course, as assigned, and lead a discussion. The purpose is to give students practice in analyzing the literature and presenting to their peers, as well to assure exposure to a breadth in the topics in astronomy and astrophysics.

Instructor(s): Wayne Hu, Hsiao-Wen Chen Terms Offered: Spring Winter. Winter Quarter instructor Wayne Hu; Spring Quarter instructor Hsiao-Wen Chen.

Prerequisite(s): Intended for doctoral students in the Department of Astronomy and Astrophysics.

#### ASTR 50000. Theory and Practice of Science Education. 000 Units.

In this seminar, students examine their work as teaching assistants through activities that include self-reflection; investigating relevant educational literature; and engaging in in-depth discussions about their own teaching and learning. Readings and discussion topics include questioning techniques, learning theory, cooperative learning, growth mindset, metacognition, developing relationships with students, equity, and differentiation. Students will try out new ideas each week in their learning teams and report their results in class. In many cases, students provide guidance to one another regarding managing issues that typically arise in their learning teams. The seminar is intended for graduate students who are serving as teaching assistants for the first time, and is typically taken in the same quarter in which the student begins teaching. Instructor(s): Brent Barker Terms Offered: Autumn Spring Winter

Prerequisite(s): Undergraduates serving as course assistants may enroll with instructor consent.

Note(s): Graduate students in Astronomy and Astrophysics and Geophysical Sciences enroll in ASTR 50000 the first quarter in which they will teach.

Equivalent Course(s): GEOS 39500

ASTR 70000. Advanced Study: Astronomy & Astrophysics. 300.00 Units.

Advanced Study: Astronomy & Astrophysics



# Graduate Program in Biophysical Sciences

## Chair

Tobin R. Sosnick

#### Website (http://biophysics.uchicago.edu/)

The Graduate Program in Biophysical Sciences is designed to transcend traditional departmental boundaries for the purpose of training scientists who will excel at addressing biological problems using quantitative and physical approaches. The program, which grants a Ph.D. degree from both the Biological and Physical Science Divisions, serves the needs of students who have strong backgrounds in the physical sciences and are intrigued by the interface of the physical, biological and computational sciences. Dual mentorship is a fundamental component of the program. Each student chooses a pair of dissertation advisors from across our diverse faculty and fully participates in both of these research groups.

The participating faculty in the program are drawn from The Physical and The Biological Sciences Divisions, and Argonne National Laboratory and hold appointments in:

Departments & Committees

- Ben May Dept. for Cancer Research
- Biochemistry & Molecular Biology
- Chemistry
- Computer Science
- Ecology and Evolution
- Geophysical Sciences
- Human Genetics
- Mathematics
- Medicine
- Microbiology
- Molecular Genetics and Cell Biology
- Neurobiology
- Organismal Biology and Anatomy
- Pathology
- Physics
- Statistics

### Institutes & Centers

- Inst. for Biophysical Dynamics
- Inst. for Genomics & Systems Biology
- James Franck Institute
- Materials Research Science & Engineering Center
- Pritzker Institute for Molecular Engineering

## Curriculum

The curriculum assumes that entering students are well-grounded in the physical sciences. During the first year, students are expected to take one class per quarter from both the Biological Sciences Division and the Physical Sciences Division (6 courses total). The Biological Organization Series consists of courses chosen to rapidly teach the fundamental biology necessary to enter a laboratory and begin serious interdisciplinary research. To build upon students' strengths in the physical sciences, the first year includes three courses chosen from a list of graduate courses offered in Chemistry or Physics. The curriculum can be modified to fit the strengths and weaknesses in a student's background.

Students undertake a series of laboratory rotations as part of the process of identifying a dissertation topic. These rotations are usually performed during the Winter and Spring Quarters during the first academic year.

#### Interdisciplinary Practical Training

One of the unique advantages of the program is the 3 quarter laboratory course: From Production to Measurement and Analysis. In this intense, 16 hour a week course students deeply explore a series of important current instruments and techniques while carrying out the systematic characterization of several genes and their expressed proteins. The genes are chosen from the long list of 'unknown ORFs' - open reading frames that have been predicted by genome sequencing projects, but have never been examined further.

The laboratory course is managed by a full-time course director who works closely with the students to provide experimental and intellectual continuity. The laboratory course covers (1) sample preparation and high throughput selection methods (e.g. engineering, expression, synthesis, and labeling of proteins and nucleic acids) and high throughput selection

methods (phage display, in vitro selection); (2) measurement (spectroscopy and imaging including single molecule methods, NMR, x-ray diffraction, and mass spectrometry, etc.); and (3) computational approaches (extracting information from large data sets, bioinformatics, simulation and modeling). Although it is impossible to cover all biophysical methods, the process of mastering a subset of the important techniques gives students the confidence and foundation to build in any direction.

The first section of this course is the four-week Biological Research Immersion, which starts in late August and ends before the start of Fall Quarter. The course continues through the Autumn and Winter Quarters.

The program in Biophysical Sciences is an inherently collaborative training program, and the foundation of collaboration is the ability to coherently express complex ideas. As part of the laboratory course, students are expected to give frequent presentations, both oral and written: Analysis of recent papers, background preparation before research seminars, overviews of upcoming experimental techniques, experimental proposals, and presentations of results. As a group, students also participate in two large projects during the year - building an advanced optical instrument from basic components, and writing a software package to simulate a biological process.

#### Dual Mentorship

In order to truly bridge the expertise and approach of two scientific fields it is necessary to fully participate in both. The research program each professor maintains is a vibrant and dedicated research group whose members share in the daily successes and frustrations of their related questions. It is this shared intellectual exertion that moves a subject forward, and it is this environment that most efficiently teaches the deepest understanding. In our experience, this dual mentorship creates an unparalleled learning structure and will lead to the development of unimagined science.

For a list of trainers and their affiliations, details about admissions, and current information about this new and innovative program, see http://biophysics.uchicago.edu/

#### **Biophysical Sciences Courses**

#### BPHS 31000. Biophysics of Biomolecules. 100 Units.

This course covers the properties of proteins, RNA, and DNA, as well as their interactions. We emphasize the interplay between structure, thermodynamics, folding, and function at the molecular level. Topics include cooperativity, linked equilibrium, hydrogen exchange, electrostatics, diffusion, and binding.

Instructor(s): T. Sonic

Equivalent Course(s): BIOS 21328, BCMB 32200

## BPHS 32500. Biophysical Discussions. 50 Units.

The format of this seminar series is a discussion led by pairs of faculty, one from the PSD and one from the BSD, who present their often divergent and usually provocative views on a single topic. This series is an opportunity for the University community to come together to explore current challenges at the interface of the biological and physical sciences. First year students in the Biophysical Sciences Graduate Program enroll in this course for credit. Instructor(s): A. Hammond Terms Offered: Autumn

#### BPHS 33000. Ethical tools for research and mentoring. 50 Units.

Ethical considerations of research for advanced graduate students in the Biophysical Sciences graduate program.

#### BPHS 35001. Synthesis and Modification. 200 Units.

This course is 20 hours per week of intensive training in research in the biological sciences, intended for first year students in the Biophysical Sciences Program who typically have majored in one of the physical sciences and want to pursue a PhD project at the interface between the physical and biological sciences. The course continues through Winter quarter. Instructor(s): A. Hammond Terms Offered: Autumn,Winter Note(s): Open to first year BPHS students only

BPHS 35002. Synthesis and Modification. 200 Units.

BPHS 39800. Topics: Research in Biophysical Sciences. 300.00 Units. Laboratory Rotations

#### BPHS 39900. Introduction to Research: BPHS. 300.00 Units.

Qualifying Examination Preparation

## BPHS 40100. Research in Biophysical Sciences. 300.00 Units.

PhD Thesis Research

## BPHS 40500. Research Presentations. 50 Units.

## BPHS 47300. Genomics and Systems Biology. 100 Units.

This lecture course explores technologies for high-throughput collection of genomic-scale data, including sequencing, genotyping, gene expression profiling, and assays of copy number variation, protein expression and protein-protein interaction. In addition, the course will cover study design and statistic analysis of large data sets, as well as how data from different sources can be used to understand regulatory networks, i.e., systems. Statistical tools that will be introduced include linear models, likelihood-based inference, supervised and unsupervised learning techniques, methods for assessing quality of data, hidden Markov models, and controlling for false discovery rates in large data sets. Readings will be drawn from the primary literature. Evaluation will be based primarily on problem sets.

Instructor(s): Y. Gilad Terms Offered: Spring

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence including BIOS 20187 or BIOS 20235 and STAT 23400 or BIOS 26210 and BIOS 26211

Equivalent Course(s): HGEN 47300, IMMU 47300, CABI 47300, BIOS 28407

**BPHS 70000. Advanced Study: Biophysical Sciences. 300.00 Units.** Advanced Study: Biophysical Sciences



# Department of Chemistry

Chair

Andrei Tokmakoff

Professors

- Aaron Dinner
- Guangbin Dong
- Gregory Engel
- Giulia Galli, Molecular Engineering Associate Appointment
- Philippe M. Guyot Sionnest
- Chuan He
- Michael D. Hopkins
- Stephen Kent, Biochemistry & Molecular Biology
- Yamuna Krishnan
- Ka Yee Christina Lee
- Wenbin Lin
- David Mazziotti
- Jiwoong Park
- Joseph Piccirilli, Biochemistry & Molecular Biology
- Viresh Rawal
- Benoit Roux, Biochemistry & Molecular Biology
- Stuart Rowan, Molecular Engineering Associate Appointment
- Norbert F. Scherer
- Steven J. Sibener
- James Skinner, Molecular Engineering Associate Appointment
- Scott Snyder
- Dmitri Talapin
- Andrei Tokmakoff
- Gregory Voth
- Luping Yu

## Associate Professors

- Bryan Dickinson
- Bozhi Tian
- Surinarayanan Vaikuntanathan

Assistant Professors

- John Anderson
- Sarah King
- Mark Levin
- Raymond Moellering
- Weixin Tang

Emeritus Faculty

- R. Stephen Berry
- Laurie Jeanne Butler
- Philip E. Eaton
- Karl Freed
- Robert Haselkorn, MGCB
- Richard F. Jordan
- Donald H. Levy
- James R. Norris, Jr.
- Takeshi Oka

- Stuart A. Rice
- Hisashi Yamamoto

The Ph.D. program in the Department of Chemistry offers wide opportunity and unusual flexibility for advanced study and research, and is designed to encourage individuality, independence, and excellence in students. Most students select their research advisor by winter quarter of their first year and are engaged in research by the spring quarter. The department has neither a system of cumulative examinations nor a written major examination. There are relatively few course requirements and great flexibility as to which courses may be taken.

In the Division of the Physical Sciences barriers between departments are low. Students in the Department of Chemistry often take courses in other departments and can even earn the degree in chemistry for research that has been done under the supervision of a member of another department. Students are encouraged to fashion special programs of study under the guidance of the faculty.

## Application

A completed application will include undergraduate transcripts, three letters of recommendation, and the results of the GRE examination (the advanced test in chemistry is recommended). Foreign applicants must also submit the results of the TOEFL or IELTS.

Students are normally admitted beginning with the autumn quarter of each year. The sequential nature of some of our courses makes this the best time to begin graduate studies. Although applications may be considered at any time at the discretion of the admissions committee, students are strongly encouraged to complete their applications by December 15th. The department has no admissions quota and in recent years the entering class has numbered between 38 and 55.

A well defined Master of Science (S.M.) program of appropriate rigor is maintained, but the Department of Chemistry does not offer financial support to students whose degree goal is the master's degree. This degree is neither a prerequisite for, nor a forerunner of, the Ph.D. degree, although it may be acquired along the way if a student so desires.

The Department of Chemistry participates actively in the Medical Scientist Training Program (MSTP) administered by the Pritzker School of Medicine at the University of Chicago. MSTP is a structured six year program leading to both the M.D. degree and the Ph.D. in chemistry. Full tuition and a stipend are awarded for the six year period. MSTP is funded by the National Institute of General Medical Sciences and is open only to U.S. citizens.

## Financial Support

All students admitted to the Ph.D. program are offered financial support. Generally this takes the form of a first year teaching assistantship which provides a complete merit tuition scholarship and pays a competitive monthly stipend. Teaching assistants are usually assigned to one of the undergraduate laboratory courses. Duties involve supervising one class section (13-18 students) for one afternoon per week, holding a discussion session and office hours, and assisting with grading. The total time required is about fifteen hours per week.

By the end of the third quarter students have usually selected their research supervisor. An appointment as a research assistant (stipend plus tuition) normally continues throughout the period of research.

There are several special supplemental fellowships and scholarships offered by the department and the University. All students seeking admission are automatically considered in the competition for these awards. No separate application is required. Students are urged to compete for the many national and other external fellowships available.

#### Advanced Degrees

The department administers basic examinations in the fields of inorganic, organic, and physical chemistry in the autumn, winter, and spring quarters. Graduate students are expected to take these examinations upon entering the department. Deficiencies evidenced by these examinations must be remedied and the examinations passed prior to the end of the third quarter of residence (not counting summer quarter).

In the first year, students must satisfactorily complete nine courses. At least six of these must be 30000 level courses from the offerings of the Department of Chemistry or of related departments in the Divisions of the Physical and the Biological Sciences, and the Pritzker School of Molecular Engineering. Grades of C or better are expected. The remaining three courses may include Chemistry 35000 and/or 40000 level chemistry research courses; however, one may not register for these courses during the autumn quarter. An advisor assists students in formulating programs of study that will best satisfy personal needs and departmental requirements. Courses taken outside the department to satisfy the first year requirements must be approved by the advisor.

Students who have completed all courses with grades of C or better (P in research courses) may be recommended for the S.M. degree; these students may, at the discretion of a faculty member, be required to submit a paper on their work in CHEM 35000 or a 40000 level research course.

At the end of the spring quarter in the first year, the faculty review the student's overall record. Course performance is a major part of this review; a B average or better in all 30000 level courses (excluding CHEM 35000) is expected. At this time the department will advise students whether they are qualified to continue studies and to prepare for the Ph.D. candidacy examination described below. A student seeking admission to Ph.D. candidacy must take the candidacy examination before the end of his or her fifth quarter in residence (normally October; for this purpose summer quarter is counted as a quarter

in residence). This examination is based on the student's written research prospectus. The student presents the research prospectus to the committee, and must be prepared to discuss the relevant chemical literature, progress to date, plans for future work, and the relationship of the research to other chemical problems.

The faculty review the recommendations of the candidacy examining committee and, after consideration of the student's academic record, vote on whether or not to recommend that the student be admitted to candidacy. All candidates for the Ph.D. degree are required to participate in some form of teaching. Normally this involves serving as a teaching assistant for three quarters in the first year.

The Ph.D. degree is granted upon satisfactory completion of scholarly research work, presented in a written thesis, discussed in a public seminar, and defended orally before a faculty committee.

Students should especially note the following:

- It is the responsibility of the individual research sponsor to monitor the progress of a student's research. Unsatisfactory progress may result in termination of financial support and/or dismissal from the Ph.D. program.
  - The department will recommend formal admission to candidacy as soon as the student has:
  - Satisfied the basic examination requirement
  - Satisfied the course requirements
  - Demonstrated satisfactory progress in research and teaching
  - Passed the candidacy examination

 Students should consider satisfying any or all course requirements by taking proficiency examinations. Application to take a proficiency examination should be made directly to the person who will be teaching the particular course. The examinations will be administered during the first week of the quarter in which the course is offered. No stigma is attached to failing a proficiency examination.

## Chemistry Courses

## CHEM 30100. Advanced Inorganic Chemistry. 100 Units.

Group theory and its applications in inorganic chemistry are developed. These concepts are used in surveying the chemistry of inorganic compounds from the standpoint of quantum chemistry, chemical bonding principles, and the relationship between structure and reactivity.

Instructor(s): W. Lin Terms Offered: Autumn

Prerequisite(s): CHEM 20100 and CHEM 26100

## CHEM 30200. Synthesis and Physical Methods in Inorganic Chemistry. 100 Units.

This course covers theoretical and practical aspects of important physical methods for the characterization of inorganic molecules. Topics may include NMR, IR, RAMAN, EPR, and electronic and photoelectron spectroscopy; electrochemical methods; and single-crystal X-ray diffraction. Instructor(s): W. Lin Terms Offered: Winter

Prerequisite(s): W. Lin Terms Offered: Prerequisite(s): CHEM 30100

## CHEM 30400. Organometallic Chemistry. 100 Units.

This course covers preparation and properties of organometallic compounds (notably those of the transition elements, their reactions, and the concepts of homogeneous catalysis). Instructor(s): G. Dong Terms Offered: Spring

Prerequisite(s): CHEM 20100 and CHEM 26100

## CHEM 30500. Nanoscale Materials. 100 Units.

This course provides an overview of nanoscale phenomena in metals, semiconductors, and magnetic materials (e.g., the fundamental aspects of quantum confinement in semiconductors and metals, superparamagnetism in nanoscale magnets, electronic properties of nanowires and carbon nanotubes, surface plasmon resonances in nanomaterials, photonic crystals). Special attention is paid to preparative aspects of nanomaterials, colloidal and gas-phase syntheses of nanoparticles, nanowires, and nanotubes. Engineered nanomaterials and their assemblies are considered promising candidates for a variety of applications, from solar cells, electronic circuits, light-emitting devices, and data storage to catalysts, biological tags, cancer treatments, and drug delivery. The course covers state-of-the art in these and other areas. Finally, the course provides an overview of the experimental techniques used for structural characterization of inorganic nanomaterials (e.g., electron microscopy, X-ray diffractometry, small-angle X-ray scattering, STM, AFM, Raman spectroscopy). Instructor(s): Staff. Terms Offered: Not offered in 2020-2021

Prerequisite(s): CHEM 20200 and 26300, or consent of instructor

## CHEM 30600. Chemistry Of The Elements and Materials. 100 Units.

This course surveys the descriptive chemistries of the main-group elements and the transition metals from a synthetic perspective, and reaction chemistry of inorganic molecules is systematically developed. Instructor(s): J. Anderson Terms Offered: Winter Prerequisite(s): CHEM 20100

## CHEM 30900. Bioinorganic Chemistry. 100 Units.

This course covers various roles of metals in biology. Topics include coordination chemistry of bioinorganic units, substrate binding and activation, electron-transfer proteins, atom and group transfer chemistry, metal homeostasis, ion channels, metals in medicine, and model systems.

Instructor(s): C. He Terms Offered: Spring

Prerequisite(s): CHEM 20200 and 22200/23200

## CHEM 32100. Physical Organic Chemistry I. 100 Units.

This course focuses on the quantitative aspects of structure and reactivity, molecular orbital theory, and the insight it provides into structures and properties of molecules, stereochemistry, thermochemistry, kinetics, substituent and isotope effects, and pericyclic reactions.

Instructor(s): M. Levin Terms Offered: Autumn

Prerequisite(s): CHEM 22200/23200 and 26200, or consent of instructor

## CHEM 32200. Organic Synthesis and Structure. 100 Units.

This course considers the mechanisms, applicability, and limitations of the major reactions in organic chemistry, as well as of stereochemical control in synthesis.

Instructor(s): V. Rawal Terms Offered: Autumn

Prerequisite(s): CHEM 22200/23200 or consent of instructor

## CHEM 32300. Strategies and Tactics of Organic Synthesis. 100 Units.

This course discusses the important classes for organic transformation. Topics include carbon-carbon bond formation; oxidation; and reduction using a metal, non-metal, or acid-base catalyst. We also cover design of the reagents and the scope and limitation of the processes.

Instructor(s): S. Snyder Terms Offered: Winter Prerequisite(s): CHEM 22200/23200 or consent of instructor

## CHEM 32400. Physical Organic Chemistry II. 100 Units.

Topics covered in this course include the mechanisms and fundamental theories of free radicals and the related free radical reactions, biradical and carbene chemistry, and pericyclic and photochemical reactions. Instructor(s): Staff Terms Offered: Not offered in 2020-2021

Prerequisite(s): CHEM 32100

## CHEM 32500. Bioorganic Chemistry. 100 Units.

A goal of this course is to relate chemical phenomena with biological activities. We cover two main areas: (1) chemical modifications of biological macromolecules and their potential effects; and (2) the application of spectroscopic methods to elucidate the structure and dynamics of biologically relevant molecules. Instructor(s): Staff. Terms Offered: Not offered in 2020-2021

## CHEM 33000. Complex Chemical Systems. 100 Units.

This course describes chemical systems in which nonlinear kinetics lead to unexpected (emergent) behavior of the system. Autocatalytic and spatiotemporal pattern forming systems are covered, and their roles in the development and function of living systems are discussed.

Instructor(s): Staff Terms Offered: Not offered in 2020-2021

Prerequisite(s): CHEM 22200/23200 and MATH 20100, or consent of instructor

## CHEM 33100. New Synthetic Reactions and Catalysts. 100 Units.

This course presents recent highlights of new synthetic reactions and catalysts for efficient organic synthesis. Mechanistic details and future possibilities are discussed.

Instructor(s): Staff Terms Offered: Not offered in 2020-2021

Prerequisite(s): CHEM 23300

## CHEM 33200-33300. Chemical Biology I-II.

This course emphasizes the concepts of physical organic chemistry (e.g., mechanism, molecular orbital theory, thermodynamics, kinetics) in a survey of modern research topics in chemical biology. Topics, which are taken from recent literature, include the roles of proteins in signal transduction pathways, the biosynthesis of natural products, strategies to engineer cells with novel functions, the role of spatial and temporal inhomogeneities in cell function, and organic synthesis and protein engineering for the development of molecular tools to characterize cellular activities.

## CHEM 33200. Chemical Biology I. 100 Units.

The aim of this course is to teach chemical biology using primary literature examples, both classic and modern, focused on fundamental approaches and technologies. A general focus on the course are biomolecules - their biophysics, function, engineering, and repurposing and research tools. This course and the subsequent "Chemical Biology II course (Chem333) are geared toward those interested in pursuing chemical biology in their research endeavors or future career. Instructor(s): W. Tang Terms Offered: Autumn

Prerequisite(s): CHEM 22200/23200, or consent of instructor

## CHEM 33300. Chemical Biology II. 100 Units.

No description available. Instructor(s): R. Moellering Terms Offered: Winter Prerequisite(s): CHEM 33200, or consent of instructor

## CHEM 33500. Chemistry of Enzyme Catalysis. 100 Units.

The course will cover fundamental aspects of the physical organic chemistry of enzyme catalysis, with special emphasis on the role of pre-oriented local electric fields in catalysis, and will use case studies based on the primary scientific literature-both classic and current papers. For each class, there will be primary scientific papers assigned that the student will be expected to have studied in depth prior to class, including "reading around" on the same and related topics; suggestions for supplementary reading will be given. Classes will be conducted as discussion sessions; guided by the Instructor--all students will be expected to be prepared to answer questions from the instructor, and to take active part in class discussions. Participation in class will count for a portion of the grade for each student.

Instructor(s): S. Kent Terms Offered: Winter

## CHEM 33600, Biological Chemistry of Materials: Principles and Applications, 100 Units,

This course will focus on principles of bioconjugation techniques; preparation of immobilized-enzymes/proteins: adsorption, occlusion, cross-linking and covalent binding. Applications of cofactor-dependent enzymes: building of enzymatic electrodes and biofuel cells. Development of immunosensors based on ELISA, electrochemistry, optics, carbon nanotubes and piezoelectric methods. Principles and design of DNA/RNA based sensors (Ribozymes, SELEX, Aptamers, DNAzymes, Molecular Beacons). Amplification methods for nucleic acids detection in test tube and in cells. Preparation and characterization of nanoparticles in nucleic acids and proteins sensing processes.

Terms Offered: Not offered in 2020-2021

Prerequisite(s): CHEM 23300 or consent of instructor

## CHEM 33700. RNA Structure, Function, and Biology. 100 Units.

Students will learn principles of RNA structure and function, RNA catalysis, and RNA molecular cell biology as they relate to the field of RNA metabolism. In recent years it has become apparent that much of an organisms genome is transcribed, yielding a far more expansive collection of RNA molecules than previously thought: many of these RNAs are classic messenger RNAs that code for proteins but many serve functions other than protein coding (noncoding RNAs). These RNAs are processed, modified, and usually interact with RNA binding proteins (RBPs) to form ribonucleoprotein (RNP) complexes. We will consider emerging themes in noncoding RNA biology and investigate methods for interrogating their cellular structure and function.

Terms Offered: Not offered in 2020-2021

## CHEM 33800. Discovery and Translation of Molecular Therapeutics - I. 100 Units.

The aim of this course is to teach modern chemical biology methods, technologies, and applications as applied to problems and challenges in human health and biotechnology. Both classics in translational chemical biology and emerging technologies will be used to teach general principles in the application of chemistry to therapeutic development and biotechnology. As compared to the Chemical Biology course track (Chem332/Chem333), this course is geared more toward non-experts in chemical biology or those with a less extensive chemistry background. Instructor(s): B. Dickinson. R. Moellering Terms Offered: Winter

Prerequisite(s): CHEM 22200/23200

## CHEM 33900. Discovery and Translation of Molecular Therapeutics - II. 100 Units.

The aim of this course is to broadly expose students to emerging classes of molecular therapeutics and diagnostics with a focus on the chemistry and molecular engineering underlying their discovery, development and translation into use by society. This material will be presented through the lens of academic, industrial and clinical experts, which will collectively expose students to the diverse disciplines that come together in the creation of new medicines and diagnostics. Instructor(s): R. Moellering, B. Dickinson Terms Offered: Spring Prerequisite(s): CHEM 33200 or CHEM 33800

## CHEM 35000. Intro To Research: Chemistry. 300.00 Units.

For course description contact Chemistry.

## CHEM 36100. Wave Mechanics and Spectroscopy. 100 Units.

This course presents the introductory concepts, general principles, and applications of wave mechanics to spectroscopy. Instructor(s): A. Dinner Terms Offered: Autumn Prerequisite(s): CHEM 26300

#### CHEM 36200. Quantum Mechanics. 100 Units. This course builds upon the concepts introduced in CHEM 36100 with greater detail provided for the role of quantum mechanics in chemical physics.

Instructor(s): D. Mazziotti Terms Offered: Winter Prerequisite(s): CHEM 36100

## CHEM 36300. Statistical Thermodynamics. 100 Units.

This course covers the thermodynamics and introductory statistical mechanics of systems at equilibrium. Instructor(s): S. Vaikuntanathan Terms Offered: Autumn Prerequisite(s): CHEM 26100-26200

## CHEM 36400. Advanced Statistical Mechanics. 100 Units.

Topics covered in this course may include statistics of quantum mechanical systems, weakly and strongly interacting classical systems, phase transitions and critical phenomena, systems out of equilibrium, and polymers. Instructor(s): V. Goth Terms Offered: Winter

Prerequisite(s): CHEM 36300 or equivalent

#### CHEM 36500. Chemical Dynamics. 100 Units.

This course develops a molecular-level description of chemical kinetics, reaction dynamics, and energy transfer in both gases and liquids. Topics include potential energy surfaces, collision dynamics and scattering theory, reaction rate theory, collisional and radiationless energy transfer, molecule-surface interactions, Brownian motion, time correlation functions, and computer simulations.

Instructor(s): G. Voth Terms Offered: Spring Prerequisite(s): CHEM 36100 required; 36300 recommended

#### CHEM 36700. Experimental Phy Chem Spec. 100 Units.

No description available.

Terms Offered: Not offered in 2020-2021

## CHEM 36800. Quantum Molecular and Materials Modeling. 100 Units.

Quantum mechanical methods, including quantum chemistry, density functional theory (DFT), and many body perturbation theory, for simulating the properties of molecules and materials will be explored in this course. Numerical algorithms and techniques will be introduced that allow for solution of approximate forms of the Schroedinger and Boltzmann Equations that model structural and transport properties of molecules and materials. The coupling of DFT with molecular dynamics will be detailed for determining finite temperature properties. Coupling of DFT with spin Hamiltonians to study dynamical spin correlations in materials will also be described. Examples of the application of quantum mechanical methods to materials for energy conversion and quantum information technologies will be provided.

Instructor(s): Giulia Galli Terms Offered: Spring

Prerequisite(s): PHYS 23400 or CHEM 26100 or instructor consent Equivalent Course(s): MENG 25510, MENG 35510, CHEM 26800

## CHEM 37100. Advanced Spectroscopies. 100 Units.

This linear and nonlinear spectroscopy course includes notions on matter-radiation interaction, absorption, scattering, and oscillator strength. They are applied mostly with the optical range, but we briefly touch upon microwave (NMR, ESR) and X-rays at the extreme. We cover nonlinear optical processes such as coherent Raman, harmonic, and sum-frequency; induced transparency; slow light; and X-ray generation. We also cover coherent and incoherent dynamical probes, such as pump-probe, echos, and two-dimensional spectroscopy.

Terms Offered: Not offered in 2020-2021

## CHEM 37300. Advanced Special Topics in Theory and Computation. 100 Units.

This course introduces topics in theoretical and computational chemistry beyond those in the traditional graduate physical chemistry sequence. Specific topics will vary from year to year based on the interests of the instructor and students. Representative topics are diagrammatic methods, field theories, renormalization, nonequilibrium statistical mechanics, and quantum dynamics.

Terms Offered: Not offered in 2020-2021

#### CHEM 38700. Biophysical Chemistry. 100 Units.

This course develops a physicochemical description of biological systems. Topics include macromolecules, fluid-phase lipid-bilayer structures in aqueous solution, biomembrane mechanics, control of biomolecular assembly, and computer simulations of biomolecular systems.

Instructor(s): R. Benoit Terms Offered: Spring

Prerequisite(s): CHEM 23300, CHEM 26200.

## CHEM 39000. Solids, Materials, Surfaces. 100 Units.

This course is an introduction to modern materials chemistry. It covers basic chemistry and physics of condensed systems, such as solids, polymers, and nanomaterials. The electronic structure of metals, semiconductors and magnetically ordered phases will be discussed. We will review optical and electronic properties of different classes of materials using examples of hard and soft condensed matter systems and drawing structure-property relationships for conventional solids, polymers, and nanomaterials. Finally, the course will cover the fundamentals of surface science and material synthesis, applying modern understanding of nucleation and growth phenomena.

Instructor(s): D. Talapin Terms Offered: Autumn

Prerequisite(s): CHEM 26100, CHEM 26200, and CHEM 26300, or equivalent

## CHEM 39100. Polymer Synthesis. 100 Units.

This course introduces the most important polymerization reactions, focusing on their reaction mechanisms and kinetic aspects. Topics include free radical and ionic chain polymerization, step-growth polymerization, ring-opening, insertion, controlled living polymerization, crosslinking, copolymerization, and chemical modification of preformed polymers. Instructor(s): Stuart Rowan Terms Offered: Winter

Prerequisite(s): CHEM 22000 and CHEM 22100

Equivalent Course(s): MENG 25110, MENG 35110

## CHEM 39200. Polymers. 100 Units.

The course covers the following advanced topics in polymer science, by a combination of lectures and student presentations: 1) Electrical-conductivity, mobility, applications in various fields 2) Biological polymers-biocompatibility, degradable drug delivery, (Protein, DNA and RNA delivery), tissue engineering 3) Liquid crystal polymers 4) Polymers for catalytic function 5) Ferroelectric/ferromagnetic polymers 6) Optical polymers (linear, nonlinear optical polymers) 7) Block copolymers for nanostructures 8) Supramolecular polymers-polymers with self-healing properties.

Instructor(s): Luping Yu Terms Offered: Winter

Prerequisite(s): CHEM 22000-22100-22200 and CHEM 26100

#### CHEM 39300. Electronic and Quantum Materials for Technology. 100 Units.

This is a one-quarter introductory course on the science and engineering of electronic and quantum materials. The intended audience is upper-level undergraduate students and first-year graduate students in Molecular Engineering and other related fields, including Chemistry and Physics. We will learn the basics of electrical and optical properties of electronic materials, including semiconductors, metals, and insulators starting from a simple band picture, and will discuss how these materials enable modern electronic and optoelectronic devices and circuitry. We will also explore the modern synthesis techniques for these materials and the effects of reduced dimensions and emergent quantum properties. No comprehensive exposure to quantum mechanics, thermodynamics, or advanced mathematical skills will be assumed, even though working knowledge of these topics will be helpful., Chem 39300 is a one-quarter introductory course on the science and engineering of electronic and quantum materials. The intended audience is upper-level undergraduate students and first-year graduate students in Molecular Engineering, Chemistry and Physics. We will learn the basics of electrical and optical properties of electronic materials, including semiconductor, metal, and insulators starting from a simple band picture and discuss how these materials enable modern electronic and optoelectronic devices and circuitry. We will also explore the modern synthesis techniques for these materials and the effects of reduced dimensions and emergent quantum properties.

Instructor(s): Jiwoong Park Terms Offered: Spring

Prerequisite(s): CHEM 26200 or PHYS 23500 or instructor consent

Equivalent Course(s): MENG 26600, MENG 36600

## CHEM 40000. Rsch: Related Depts/Institutes. 300.00 Units.

Doctoral research on an original project in Related Depts/Institutes under the supervision of the professor.

#### CHEM 40100. Research: Physical Chemistry. 300.00 Units.

Doctoral research on an original project in Physical Chemistry under the supervision of the professor.

CHEM 40200. Research: Physical Chemistry. 300.00 Units.

Readings and Research for working on their PhD

CHEM 40300. Research: Inorganic Chemistry. 300.00 Units.

Readings and Research for working on their PhD

## CHEM 40400. Rsch: Org/Phys/Polymer Chem. 300.00 Units.

Doctoral research on an original project in Org/Phys/Polymer Chemistry under the supervision of the professor.

CHEM 40500. Rsch: Laser/Surface/Phys Chem. 300.00 Units.

Doctoral research on an original project in Laser/Surface/Physical Chemistry under the supervision of the professor.

## CHEM 40600. Research: Bioorganic Chemistry. 300.00 Units.

Doctoral research on an original project in Bioorganic Chemistry under the supervision of the professor.

CHEM 40700. Research: Inorganic Chemistry. 300.00 Units. Readings and Research for working on their PhD

## CHEM 40800. Research: Organic Chemistry. 300.00 Units.

Doctoral research on an original project in Organic Chemistry under the supervision of the professor.

## CHEM 40900. Research: Organic Chemistry. 300.00 Units.

Readings and Research for working on their PhD

CHEM 41000. Research: Physical Chemistry. 300.00 Units.

Readings and Research for working on their PhD

## CHEM 41100. Research: Physical Chemistry. 300.00 Units.

Readings and Research for working on their PhD

## CHEM 41200. Research: Physical Chemistry. 300.00 Units.

Doctoral research on an original project in Physical Chemistry under the supervision of the professor.

## CHEM 41300. Research: Inorganic Chemistry. 300.00 Units.

Readings and Research for working on their PhD

CHEM 41400. Research: Org/Biological Chem. 300.00 Units. Readings and Research for working on their PhD

# CHEM 41500. Research: Physical Chemistry. 300.00 Units.

Readings and Research for working on their PhD

CHEM 41600. Research: Biophysical Chem. 300.00 Units.

Doctoral research on an original project in Biophysical Chemistry under the supervision of professor.

CHEM 41700. Research: Geochemistry. 300.00 Units.

Doctoral research on an original project in Geochemistry under the supervision of the professor.

CHEM 41800. Rsch: Org/Phys-Org Chemistry. 300.00 Units. Doctoral research on an original project in Org/Phys-Org Chemistry under the supervision of the professor.

CHEM 41900. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42000. Research: Physical Chemistry. 300.00 Units. Doctoral research on an original project in Physical Chemistry under the supervision of the professor.

CHEM 42100. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42200. Research: Inorganic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42300. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42400. Research: Org/Biological Chem. 300.00 Units. Readings and Research for working on their PhD

CHEM 42500. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42600. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42700. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42800. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 42900. Research: Organic Chemistry. 300.00 Units.

CHEM 43000. Research: Inorganic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 43100. Research: Inorganic Chemistry. 300.00 Units. Doctoral research on an original project in Inorganic Chemistry under the supervision of the professor.

CHEM 43200. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 43300. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 43400. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 43500. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 43600. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 43800. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 43900. Research: Org/Biotheoretical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 44000. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 44100. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 44200. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 44300. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

#### CHEM 44400. Research: Organic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 44500. Research: Inorganic Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 44600. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

CHEM 44700. Research: Physical Chemistry. 300.00 Units. Readings and Research for working on their PhD

## CHEM 44800. Research: Organic Chemistry. 300.00 Units.

Readings and Research for working on their PhD

## CHEM 44900. Polymer Chemistry. 300.00 Units.

Laboratory Research on an original project in Polymer Chemistry for Ph.D. dissertation.

## CHEM 45000. Research: Physical Chemistry. 300.00 Units.

## CHEM 45100. Research: Physical Chemistry. 300.00 Units.

Laboratory research in physical chemistry.

Instructor(s): Sarah King Terms Offered: Autumn Spring Summer Winter. Start in 2018 - 2019 and continue every year/ quarter after that

## CHEM 45200. Research: Organic Chemistry. 300.00 Units.

Conduct research towards a dissertation research project in Organic Chemistry. Instructor(s): Prof. Mark Levin Terms Offered: Autumn Spring Summer Winter

## CHEM 45300. Research: Organic/Biological Chemistry. 300.00 Units.

Conduct research for Ph.D. dissertation in the laboratory of a Chemistry Department faculty member. Instructor(s): Prof. Weixing Tang Terms Offered: Autumn Spring Summer Winter. Offered every quarter

## CHEM 49000. Research: Internship. 300.00 Units.

Off site research internship. Instructor(s): Dr. Vera Dragisich Terms Offered: Autumn Spring Summer Winter Prerequisite(s): Approval of dissertation advisor

## CHEM 50000-50001-50002. Advanced Training for Teachers and Researchers in Chemistry I-II-III.

This sequence will extend the traditional two-week departmental TA training into a full year, covering both the materials that are critical to becoming an excellent TA and the skills to produce well-rounded PhD candidates. At the end of this sequence, students are expected to develop an enhanced understanding and talent of critical thinking, an enriched knowledge base that is critical in solving real-world problems, an improved ability in the consideration and use of innovative pedagogical tools, the ability to transition into independent research, and effective skills in preparing high-quality written reports and oral presentations, as well as to begin thinking about career development skills.

## CHEM 50000. Advanced Training for Teachers and Researchers in Chemistry I. 100 Units.

No description available. Instructor(s): Dr. Vera Dragisich Terms Offered: Autumn

CHEM 50001. Advanced Training for Teachers and Researchers in Chemistry II. 300.00 Units. No description available.

Instructor(s): Dr. Vera Dragisich Terms Offered: Winter

## CHEM 50002. Advanced Training for Teachers and Researchers in Chemistry III. 300.00 Units. No description available.

Terms Offered: Spring

CHEM 50005. Chemistry External Research/Professional Development. 100 Units. Internship for professional development, such as through My Choice program. Instructor(s): Vera Dragisich Terms Offered: Spring. May be offered in other quarters as well, as necessary

## CHEM 59200. Seminar on Experimental Design. 000 Units.

CHEM 70000. Advanced Study: Chemistry. 300.00 Units. Advanced Study: Chemistry



# The Committee on Computational and Applied Mathematics

Committee website: https://cam.uchicago.edu/

Director

Mary Silber (Statistics, CAMI)

Professors

- Yali Amit (Statistics and Computer Science)
- Mihai Anitescu (Statistics and Argonne, CAMI)
- Guillaume Bal (Statistics and Mathematics, CAMI)
- Fausto Cattaneo (Astronomy and Astrophysics)
- Jack Cowan (Mathematics and Neurology)
- Aaron Dinner (Chemistry and James Franck Institute)
- Todd Dupont (Computer Science, Mathematics, and James Franck Institute)
- Carlos Kenig (Mathematics)
- Gregory Lawler (Mathematics and Statistics)
- John Reinitz (Statistics and Ecology and Evolution, CAMI)
- Charles Smart (Mathematics)
- Panagiotis (Takis) Souganidis (Mathematics)
- Nathan Srebro (TTIC and Computer Science)
- Matthew Stephens (Statistics and Human Genetics)
- Gregory Voth (Chemistry and James Franck Institute)
- Shmuel Weinberger (Mathematics)
- Rebecca Willett (Statistics, CAMI, Computer Science)

Associate Professor

- Rina Foygel Barber (Statistics)
- Lek-Heng Lim (Statistics, CAMI)

Assistant Professors

- Zheng (Tracy) Ke (Statistics)
- Yuehaw Khoo (Statistics, CAMI)
- Arvind Murugan (Physics)
- Daniel Sanz-Alonso (Statistics, CAMI)

## The Program

The use of computational, mathematical and statistical modeling in various areas of science has increased dramatically in recent years, triggered by massive increases in computing power and data acquisition. Mechanistic models for physical problems that reflect underlying physical laws are being combined with data-driven approaches in which statistical inference and optimization play key roles. These developments are transforming research agendas throughout statistics and applied mathematics, and are impacting a broad range of scientific disciplines.

A critical need now exists to train the next generation of computational and applied mathematicians to confront datacentric problems in the natural and social sciences. In response to these developments, the Committee on Computational and Applied Mathematics (CCAM) has been formed to provide graduate training in Computational and Applied Mathematics that reflects both the scientific demands and the unique strengths of the University of Chicago faculty across the Division of the Physical Sciences, including the recent hiring of several new faculty under a Computational and Applied Mathematics Initiative (CAMI).

## Admissions

The program will admit a small number of exceptionally qualified students. Each student will be assigned to a member of the computational and applied mathematics committee to plan and approve a student's course of study until their dissertation committee is formed. The executive committee monitors each student's progress through the program at quarterly meetings.

## **Course Requirements**

First year students are required to take two 3-quarter-course sequences; one is an analytic/physical mathematics +modeling track, which includes applied dynamical systems, applied functional analysis, and PDE, and the other track is a computational one that includes matrix computation, optimization and machine learning.

In addition to these first year required courses, students take an elective course each quarter. They are assigned a firstyear advisor who will help them select appropriate elective courses for their interests.

At the end of the first year, students are assessed in these areas with a pair of exams, one on each of the tracks. For these, students must choose 2 out of the 3 courses, for each track, for their exam questions.

While students need only take courses in their first year, most take courses well into their second, in addition to taking reading courses and research seminars.

## Thesis Advisor and Dissertation Committee

Students typically select a thesis advisor by the end of their second year, and choose a three-person thesis committee with that advisor.

By the end of the third year, each Ph.D. student must have a dissertation advisor and, after consultation with their advisor, shall establish a thesis committee of at least three faculty members, including the advisor. At least two of the dissertation committee members must be faculty of the Committee on Computational and Applied Mathematics. A CAM form listing the committee members, with their signatures, must be approved by the Director of CCAM, and filed with the CAM student affairs administrator by the end of Spring Quarter of the third year. The composition of the committee may be changed at any time if the student or faculty so choose; however, it must always include the student's dissertation advisor and a least two of the committee members must be faculty members from the Committee on Computational and Applied Mathematics. Any such change must be filed as a resubmitted and newly completed and signed form with the CAM student affairs administrator.

For more details on this new program, see https://cam.uchicago.edu/academics/graduate-programs/phd-program/



# Department of Computer Science

## Chair

Michael Franklin

Professors

- Yali Amit
- Laszlo Babai
- Andrew Chien
- Frederic Chong
- Todd Dupont
- Nick Feamster
- Ian Foster
- Michael Franklin
- John Goldsmith
- Robert Grossman
- Stuart A. Kurtz
- Shan Lu
- Ketan Mulmuley
- Alexander Razborov
- John Reppy
- Janos Simon
- Rick L. Stevens
- Rebecca Willett
- Ben Zhao
- Heather Zheng

Associate Professors

- David Cash
- Diana Franklin
- Haryadi Gunawi
- Henry Hoffmann
- Gordon Kindlmann
- Risi Kondor
- Anne Rogers

Assistant Professors

- Raul Castro Fernandez
- Yuxin Chen
- Marshini Chetty
- Ravi Chugh
- Andrew Drucker
- Aaron Elmore
- William Fefferman
- Haryadi Gunawi
- Junchen Jiang
- Eric Jonas
- Sanjay Krishnan
- Yanjing Li
- Pedro Lopes
- Michael Maire
- Lorenzo Orecchia
- Aaron Potechin
- Blase Eric Ur

Research Assistant Professors

Kyle Chard

Clinical faculty

- Andrew Binkowski (assistant clinical professor)
- Geraldine Brady (associate clinical professor)
- Amitabh Chaudhary (associate clinical professor)
- William Conner (assistant clinical professor)
- Lamont Samuels (assistant clinical professor)

Adjunct faculty

- Jeffrey Cohen (adjunct assistant professor)
- Mark Shacklette (adjunct professor)
- Andrew Siegel (adjunct professor)
- Michael Spertus (adjunct professor)

The Department of Computer Science is dedicated to advancing and improving the knowledge, understanding, and practice of computer science through basic research and education.

## Research

We have a broad view of Computer Science, that includes the whole spectrum of computing, from relevant mathematics and statistics to building hardware devices, networks, data science, machine learning, human computer interaction, and Computer Science education. The list is not exhaustive, but an attempt to convey some of the research interests of current faculty. We investigate computation, information, communication and data as fundamental phenomena to be studied in Computer Science. We also investigate the many interdisciplinary ways the study of computation interacts with other disciplines like the sciences, society, and learning.

There is an ongoing major thrust to expand the role of Computer Science and computation at the University, with considerable expansion of the faculty, and expanded support to explore new research areas. These include the new Center for Data Science, a joint effort of the Statistics and Computer Science Departments, that is also experiencing rapid growth. Accordingly, the descriptions below, a snapshot of our current active research, are likely to expand.

Current active research areas include computing systems, computer architecture, computer security and privacy, errortolerant computing and error recovery in computing systems, databases and data intensive computing, theoretical computer science, discrete mathematics, quantum computing, programming languages, machine learning, computational linguistics, computer vision, cloud computing, sustainable computing, scientific computing and visualization, high performance computing, human-computer interaction, computer science education, and interdisciplinary research in computing in the physical, biological, and social sciences.

Current major research areas include:

Theoretical Computer Science

Programming Languages

Data Science

Machine Learning and AI

HCI

Scientific and High Performance Computing

Computer Science Education

For more information about current research groups and active research areas, refer to the Research section of the departmental webpage (https://www.cs.uchicago.edu/research/research-areas/).

Our research efforts are enhanced by the interdisciplinary nature of the University, and, specifically, by strong connections to the Center for Data and Computing (CDAC), the Center for Translational Data Science, the James Frank Institute, the Institute for Biophysical Dynamics, with the Pritzker School of Molecular Engineering, and with the Booth School of Business. Our research collaborations involve faculty from many different departments, including Mathematics, Statistics, Physics, Linguistics, Psychology, and Sociology. We have very strong research ties with ANL, the Argonne National Laboratory, operated by the University for the US DOE. We also have almost seamless collaborations with the Toyota Technological Institute Chicago, on campus: many TTIC faculty have part-time appointments in the Department.

## Graduate Programs

We offer two graduate curricula in computer science.

- A graduate professional curriculum leading to the Master of Science (MS) degree, for students who wish to enter or advance themselves in computer science practice.
- A graduate research curriculum leading to the PhD degree that prepares students to perform advanced basic research in computer science either in industry or academia. Teaching experience is available for students preparing for academic careers.

Acquire further information about our Masters Program in Computer Science (MPCS) through the MPCS website (http://masters.cs.uchicago.edu/), by writing to our MPCS Admissions, Department of Computer Science, University of Chicago, 5730 S Ellis Avenue, IL 60637, or by telephoning 773.834.3388. You may also email any questions to our questions@cs.uchicago.edu email address.

Acquire further information about our PhD program through our PhD admissions website, (https:// www.cs.uchicago.edu/graduate/phd-programs/) by writing to Admissions, Department of Computer Science, University of Chicago, 5730 S. Ellis Avenue, Chicago, IL 60637, or by telephoning 773.702.6011.

General information about our department is available from the departmental website (https://computerscience.uchicago.edu/).

## The PhD Program

The PhD program is done in three phases:

## Qualifying Phase

The objective of the Qualifying Phase is to provide the scientific foundations in their area, a breadth of knowledge within Computer Science, and the ability to write up research results. Students without a previous MS should satisfy course requirements, and write and defend an MS paper.

The course requirement consists of five core courses (two in Theory, two in Systems, and one in ML), three electives, and a seminar. In order to ensure breadth, no more than four of these courses should be in the student's main research area.

After the public defense of the paper, the student may be eligible to receive an MS in Computer Science from the University. Please refer to the departmental webpage (https://www.cs.uchicago.edu/graduate/phd-programs/phase-1-masters-degree-within-the-phd-program/) for details.

Students with a previous MS may receive credit for their previous work: up to waiving the core course requirement. The details of the mechanism to do so can be found on our website (https://www.cs.uchicago.edu/graduate/phd-programs/).

#### Candidacy Exam

After the Qualifying Phase, students must pass an exam for Admission to Candidacy, that is a plan for their dissertation research.

## Dissertation and Dissertation Defense

Finally, they must write and defend their dissertation.

#### Teaching Opportunities for Students in the PhD Program

The department takes its undergraduate teaching responsibilities very seriously, and offers supervised teaching opportunities, including lecturing, acting as teaching assistants, and working as lab assistants to its best graduate students.

#### **Computing Facilities**

In addition to the general University computing facilities including the Research Computing Center (https:// rcc.uchicago.edu/resources) and access to high performance computers at ANL, and our Computer Science Instructional Laboratory (which contains about 50 Macintosh computers and 40 desktops running Linux), our department provides the faculty, students, and postdoctoral associates in computer science with computing resources. We have the flexibility to adapt quickly to new research needs.

The resources include: 24 hour 7 day interactive computing on a number of shared computing servers as well as individually assigned desktops. These servers and desktops run the Linux operating system and are interconnected via high speed Ethernet. These systems are supported by substantial amounts of both local and networked disk storage for individual group use and are backed up regularly. Linux servers are available for general instructional and research purposes as well as hardware and virtual machines which are adapted to specialized needs.

Individual research groups operate additional computing facilities, often with considerable computing and storage resources. Some have specialized hardware, and fabrication tools (for example, GPU arrays, 3-D printers, etc.). Information about these resources is available from the research group's webpage.

## Joint Math/CS PhD program

The Department of Computer Science and the Department of Mathematics offer a joint PhD program. For more details see https://mathematics.uchicago.edu/academics/graduate-programs/joint-math-cs-phd-program/

#### Courses

For the list of courses offered and the course descriptions, please consult the courses section of the departmental web page (https://computerscience.uchicago.edu/graduate/courses/).

#### Computer Science Courses

## CMSC 30100. Technical Writing and Presentation. 100 Units.

Clear, logical writing and presentations are foundational skills for computer scientists. This class is meant to introduce computer science students to basic ideas and techniques for effective communication in both writing and presentations. The class will include several complementary components, including critical analysis of technical papers, weekly writing assignments focusing on writing style, clarity, and logical flow, and discussions of style for different research areas and venues. Later weeks will focus on skills for effective technical presentations in different settings, e.g. conference presentations, job talks, and keynotes. The course is primarily targeted towards graduates students, although undergraduates can audit the class (or enroll with permission from the instructor). Instructor(s): Ben Zhao Terms Offered: Autumn

Prerequisite(s): None

## CMSC 30370. Inclusive Technology, Graduate. 100 Units.

Creating technologies that are inclusive of people in marginalized communities involves more than having technically sophisticated algorithms, systems, and infrastructure. It involves deeply understanding various community needs and using this understanding coupled with our knowledge of how people think and behave to design user-facing interfaces that can enhance and augment human capabilities. When dealing with under-served and marginalized communities, achieving these goals requires us to think through how different constraints such as costs, access to resources, and various cognitive and physical capabilities shape what socio-technical systems can best address a particular issue. This course leverages human-computer interaction and the tools, techniques, and principles that guide research on people to introduce you to the concepts of inclusive technology design. You will learn about different underserved and marginalized communities such as children, the elderly, those needing assistive technology, and users in developing countries, and their particular needs. In addition, you will learn how to be mindful of working with populations that can easily be exploited and how to think creatively of inclusive technology solutions. You will also put your skills into practice in a quarter long group project involving the creation of an interactive system for one of the user populations we study.

Terms Offered: Winter Prerequisite(s): None

## CMSC 30900. Computers for Learning, Graduate. 100 Units.

Over time, technology has occupied an increasing role in education, with mixed results. Massive Open Online Courses (MOOCs) were created to bring education to those without access to universities, yet most of the students who succeed in them are those who are already successful in the current educational model. This course focuses on one intersection of technology and learning: computer games. This course covers education theory, psychology (e.g., motivation, engagement), and game design so that students can design and build an educational learning application. Labs focus on developing expertise in technology, and readings supplement lecture discussions on the human components of education. Instructor(s): Diana Franklin Terms Offered: Autumn

#### CMSC 31010. Mathematical Foundations. 100 Units.

This course is an introduction to formal tools and techniques which can be used to better understand linguistic phenomena. A major goal of this course is to enable students to formalize and evaluate theoretical claims. Equivalent Course(s): LING 21010, LING 31010, CMSC 21010

## CMSC 31140. Computational Imaging: Theory and Methods. 100 Units.

Computational imaging refers to the process of forming images from data where computation plays an integral role. This course will cover basic principles of computational imaging, including image denoising, regularization techniques, linear inverse problems and optimization-based solvers, and data acquisition models associated with tomography and interferometry. Specific topics may include patch-based denoising, sparse coding, total variation, dictionary learning, computational photography, compressive imaging, inpainting, and deep learning for image reconstruction. Instructor(s): R. Willett Terms Offered: Spring

Equivalent Course(s): CAAM 31140, STAT 31140

## CMSC 31150. Mathematical Toolkit. 100 Units.

Introduction to mathematical techniques of linear algebra and probability used in different areas of computer science. Topics in include Linear Algebra (Hilbert spaces, eigenvalues and eigenvactors, SVD, least squares), discrete probability, Gaussian variables, concentration inequalities and dimension reduction, Linear Programming and LP duality. Time permitting, martingales, stochastic processes.

Instructor(s): Tulsiani Terms Offered: Autumn Equivalent Course(s): TTIC 31150

## CMSC 31230. Fundamentals of Deep Learning. 100 Units.

Introduction to fundamental principles of deep learning. Deep learning systems are evolving rapidly and this course presents up to date material at a conceptual level. The course emphasizes theoretical and intuitive understanding rather than particular programming formalisms. Topics: Information theory as an organizing principle for machine learning and deep learning in particular. Deep learning frameworks. The "educational framework" (EDF) witten in directly in NumPy. Deep networks for computer vision: Convolutional neural networks (CNNs) and Resnet and the general principles behind them. Deep networks for language processing: Recurrent neural networks (RNNs), the Transformer, their applications and the general principles behind them. The theory and practice of stochastic gradient descent. Regularization and Generalization. Generative Adversarial Networks (GANs) Variational Autoencoders (VAEs) Deep Graphical Models Reinforcement learning and HapAZero Expected outcomes: An understanding of the general issues sufficient to guide architecture design and training. An ability to read and understand the current research literature in deep learning. Prerequisites: linear algebra, vector calculus and general mathematical sophistication.

Instructor(s): David McAllester Terms Offered: Autumn. Typically Winter, Autumn for 2020.

Prerequisite(s): An introduction to machine learning course Equivalent Course(s): TTIC 31230

## Equivalent Course(s). THE 51250

## CMSC 32001. Topics in Programming Languages. 100 Units.

This course covers a selection of advanced topics in programming languages.

Terms Offered: Autumn, Winter, Spring

Prerequisite(s): Consent of department counselor and instructor

## CMSC 32200. Computer Architecture. 100 Units.

This course is a survey of contemporary computer organization covering CPU design, instruction sets, control, processors, busses, ALU, memory, pipelined computers, multiprocessors, networking, and case studies. We focus on the techniques of quantitative analysis and evaluation of modern computing systems, such as the selection of appropriate benchmarks to reveal and compare the performance of alternative design choices in system design. We emphasize major component subsystems of high-performance computers: pipelining, instruction-level parallelism, memory hierarchies, input/output, and networkoriented interconnections.

Instructor(s): Hoffmann Terms Offered: Autumn

## CMSC 32201. Topics in Computer Architecture. 100 Units.

This course covers a selection of advanced topics in computer architecture.

Terms Offered: Autumn, Winter, Spring

Prerequisite(s): Consent of department counselor and instructor

## CMSC 32250. Intro to Computer Security. 100 Units.

This course introduces the principles and practice of computer security. It aims to teach how to model threats to computer systems and how to think like a potential attacker. It presents standard cryptographic functions and protocols and gives an overview of threats and defenses for software, host systems, networks, and the Web. It also touches on some of the legal, policy, and ethical issues surrounding computer security in areas such as privacy, surveillance, and the disclosure of security vulnerabilities. The goal of this course is to provide a foundation for further study in computer security and to help better understand how to design, build, and use computer systems more securely.

## CMSC 33000. Operating Systems. 100 Units.

## CMSC 33001. Topics in Systems. 100 Units.

Graduate study of current topics in systems. Terms Offered: Autumn Spring Winter Prerequisite(s): Consent of department counselor and instructor

## CMSC 33100. Advanced Operating Systems. 100 Units.

This course covers advanced topics in operating systems and systems research. Possible topics include, but are not limited to the following: OS philosophies, networked operating systems, distributed file systems, virtual machines, fault-tolerant systems, resource allocation, parallel computing and multiprocessing, cloud computing, and security. Instructor(s): Lu Terms Offered: Autumn

Prerequisite(s): Consent of department counselor and instructor

## CMSC 33200. Topics: Operating Systems. 100 Units.

## CMSC 33210. Usable Security and Privacy. 100 Units.

Questions of usability and privacy in computer systems, including human factors.

Instructor(s): Ur Terms Offered: Spring

Prerequisite(s): Consent of department counselor and instructor

## CMSC 33231. Topics in Human Computer Interaction. 100 Units.

The Internet is rife with misleading online content that can have benign to malicious consequences on users. To deal with this problem, we need to understand what types of misleading content exist, how to quantify the harm these types of content pose to users, what approaches are in place to detect and flag this content, and how to inform and educate users to be mindful of accepting such content at face value. In this seminar, we will discuss current topics related to combatting misleading online content. These topics may include: disguised advertisements; dark patterns of design; misinformation; disinformation; media literacy; content moderation; and censorship. We will examine these topics from a Human-Computer Interaction lens. Course meetings will include weekly readings and discussions. Through the course, you will also work to develop a research paper on a topic of your choosing related to the overarching seminar themes.

Instructor(s): Pedro Lopes Terms Offered: Winter

## CMSC 33240. Emergent Interface Technologies. 100 Units.

In this class, we critically examine emergent technologies that might impact the future generations of computing interfaces, these include: physiological I/O (e.g., brain and muscle computer interfaces), tangible computing (giving shape and form to interfaces), wearable computing (I/O devices closer to the user's body), rendering new realities (e.g., virtual and augmented reality), haptics (giving computers the ability to generate touch and forces) and unusual auditory interfaces (e.g., silent speech and microphones as sensors). In this class you will: (1) learn about these new developments during the lectures, (2) read HCI papers and summarize these in short weekly assignments, and lastly, (3) start inventing the future of computing interfaces by proposing a new idea in the form of a paper abstract, which you will present at the end of the semester and have it peer-reviewed in class by your classmates.

Terms Offered: Winter

## CMSC 33250. Introduction to Computer Security. 100 Units.

This course introduces the principles and practice of computer security. It aims to teach how to model threats to computer systems and how to think like a potential attacker. It presents standard cryptographic functions and protocols and gives an overview of threats and defenses for software, host systems, networks, and the Web. It also touches on some of the legal, policy, and ethical issues surrounding computer security in areas such as privacy, surveillance, and the disclosure of security vulnerabilities. The goal of this course is to provide a foundation for further study in computer security and to help better understand how to design, build, and use computer systems more securely.

Instructor(s): A. Feldman Terms Offered: Autumn

Prerequisite(s): Consent of department counselor and instructor

### CMSC 33251. Topics in Computer Security. 100 Units.

Seminar on current topics in computer security.

#### CMSC 33260. Internet Censorship and Online Speech. 100 Units.

Information dissemination and online discourse on the Internet are subject to the algorithms and filters that operate on Internet infrastructure, from network firewalls to search engines. This course will explore the technologies that are used to control access to online speech and information, and cutting-edge technologies that can empower citizens in the face of these information controls. Students will learn about and experiment with technologies to control online discourse, ranging from firewalls that perform network traffic filtering to algorithms for content personalization and content moderation. We will also explore underlying technical trends, such as the increasing consolidation of Internet infrastructure and protocols, and the implications of consolidation for control over online discourse. Each course meeting will include a technical overview, reading discussion, and a hands-on laboratory activity. Terms Offered: Winter

Prerequisite(s): None

## CMSC 33281. Topics in Human Robot Interaction. 100 Units.

Topics in Human Robot Interaction

Instructor(s): Sarah Sebo Terms Offered: Autumn

#### CMSC 33300. Networks and Distributed Systems. 100 Units.

This course will focus on studying the state of the art in networking and networked systems, from a research and design perspective. We will cover a variety of topics from routing protocols to Internet stability, peer-to-peer, social networks and networking for data centers. Coverage of each topic will dive into fundamental design questions of protocols and systems, including updates from results of currently active research. Readings will focus on classic and current research publications, and students are expected to come in with a solid background on networking basics. Students will learn tools, techniques, and concepts while learning to carry out original research in an open-ended course project, with the end goal of producing real, publishable results by the end of the quarter. Students are also expected to gain experience in two skills: quickly reading technical papers (without sacrificing understanding), and giving clear and well-organized presentations. Instructor(s): B. Sotomayor Terms Offered: Winter

## CMSC 33400. Mobile Computing. 100 Units.

Mobile computing is pervasive and changing nearly every aspect of society. Sensing, actuation, and mediation capabilities of mobile devices are transforming all aspects of computing: uses, networking, interface, form, etc. This course explores new technologies driving mobile computing and their implications for systems and society. Current focus areas include expanded visual experience with computational photography, video and interactive augmented reality, and synchronicity and proximity-detection to enable shared social experiences. Labs expose students to software and hardware capabilities of mobile computing systems, and develop the capability to envision radical new applications for a large-scale course project. Instructor(s): A. Chien Terms Offered: Not offered 2017-2018.

Prerequisite(s): CMSC 23000 or 23300 or equivalent are required.

## CMSC 33501. Topics in Databases. 100 Units.

This course covers a selection of advanced topics in database systems.

Terms Offered: Autumn, Winter, Spring

Prerequisite(s): Consent of department counselor and instructor

## CMSC 33520. Data Intensive Computer Systems. 100 Units.

Big Data and Data Analytics have become hot topics as well as drivers of multi-billion dollar industries. With unprecedented data collection from e-commerce, the WWW, scientific instruments, mobile phones, and IoT. The course objective is to expose students to the technical challenges of data-intensive computing systems, including canonical driving problems, research systems, and emerging technologies. While other classes focus on analysis algorithms (or even underlying statistical or machine learning methods), we focus on the computer systems and technology needed to achieve scalable and efficient data-intensive computing systems. Through paper reading, discussions, presentation, and in-depth projects, students will develop a broad familiarity with current challenges and hands-on experience with a range of systems which together provide a solid preparation for research in the area. Course topics include: parallel filesystems, SQL databases, NoSQL/Mapreduce systems, storage class memories (from Flash to Memristor to ReRAM), and popular open source infrastructures such as Spark, Succinct, Hadoop, VoltDBHadoopDB, Cassandra, Memcached, MongoDB, and others.

Instructor(s): Chien Terms Offered: Spring

Prerequisite(s): Consent of department counselor and instructor

## CMSC 33550. Introduction to Databases. 100 Units.

This course is an introduction to database design and programming using the relational model. Topics include DBMS architecture, entity-relationship and relational models, relational algebra, relational calculus, functional dependencies and normal forms, web DBs and PHP, query optimization, and physical data organization. The lab section will guide students through the collaborative implementation of a relational database management system, allowing students to see topics such as physical data organization and DBMS architecture in practice, and exercise general skills such as collaborative software development.

Instructor(s): Elmore Terms Offered: Winter

Prerequisite(s): Consent of department counselor and instructor

#### CMSC 33580. The Value of Data. 100 Units.

In this seminar, we'll study papers that treat data from an economic, social, and technical dimension. Terms Offered: Autumn

## CMSC 33600. Type Systems for Programming Languages. 100 Units.

This course covers the basic ideas of type systems, their formal properties, their role in programming language design, and their implementation. Exercises involving design and implementation explore the various options and issues.

Terms Offered: Winter

Prerequisite(s): Consent of department counselor

Note(s): CMSC 22100 recommended. Not offered in 2016-17.

## CMSC 33700. Computer Graphics. 100 Units.

This course introduces the basic concepts and techniques used in three-dimensional computer graphics. The focus is on realtime rendering techniques, such as those found in computer games. These include coordinate systems and transformations, the graphics pipeline, basic geometric algorithms, texture mapping, level-of-detail optimizations, and shadows. Students are required to complete both written assignments and programming projects using OpenGL.

Instructor(s): J. Reppy Terms Offered: TBD

Prerequisite(s): Consent of department counselor and instructor

#### CMSC 33710. Scientific Visualization. 100 Units.

Scientific visualization combines computer graphics, numerical methods, and mathematical models of the physical world to create a visual framework for understanding and solving scientific problems. The mathematical and algorithmic foundations of scientific visualization (for example, scalar, vector, and tensor fields) will be explained in the context of real-world data from scientific and biomedical domains. The course is also intended for students outside computer science who are experienced with programming and computing with scientific data. Programming projects will be in C and C++. Instructor(s): G. Kindlmann Terms Offered: Winter

Prerequisite(s): Strong programming skills and basic knowledge of linear algebra and calculus Note(s): This course is offered in alternate years.

## CMSC 33750. Machine Learning and Cancer. 100 Units.

In this topics course we will investigate the use of machine learning methods in the study of Cancer and the development of precision oncology. Cancer is a complex disease that impacts millions each year. Recently the concept of precision oncology has gained popularity as an approach to customize Cancer treatments based on the genomic profile and history of the patient, the molecular properties of the patient's tumor and the action and mode of treatments that are available. At the center of any precision medicine approach are large-scale datasets from which predictive models can be built, scalable analysis methods for processing and integrating data and machine learning methods for constructing and evaluating predictive models that can be used in diagnosis, treatment planning, and outcome prediction for patient care. In this course we will work through the development of the entire pipeline from raw data to predictive models. We will develop and evaluate predictive models for drug response, tumor typing, image based diagnosis, and treatment outcomes. We will also develop some population based models that include environmental factors. Students will work through key papers, representative datasets and a variety of machine learning methods including some deep learning models under development in the joint DOE/NCI Cancer project. Familiarity with python and machine learning will be helpful. Students will have an opportunity to do significant project work as part of the course.

Instructor(s): Rick Stevens, Robert Grossman Terms Offered: Autumn

## CMSC 33900. Data Visualization. 100 Units.

Data visualizations provide a visual setting in which to explore, understand, and explain datasets. This class describes mathematical and perceptual principles, methods, and applications of "data visualization" (as it is popularly understood to refer primarily to tabulated data). A range of data types and visual encodings will be presented and evaluated. Visualizations will be primarily web-based, using D3.js, and possibly other higher-level languages and libraries.

## CMSC 34200. Numerical Hydrodynamics. 100 Units.

This course covers numerical methods for the solution of fluid flow problems. We also make a theoretical evaluation of the methods and experimental study based on the opinionated book Fundamentals of Computational Fluid Dynamics by Patrick J. Roache.

## Instructor(s): T. Dupont Terms Offered: Winter

Prerequisite(s): Consent of department counselor. Ability to program; and familiarity with elementary numerical methods and modeling physical systems by systems of differential equations

Note(s): Not offered in 2016-17. Offered in alternate years.

#### CMSC 34702. Topics in Networks: 100 Units.

#### CMSC 34703. Topics in Distributed Systems. 100 Units.

Topics in Distributed Systems Instructor(s): Junchen Jiang Terms Offered: Autumn

## CMSC 34900. Topics in Scientific Computing. 100 Units.

This course covers a selection of advanced topics in Scientific Computing. Instructor(s): Scott Terms Offered: Autumn

Prerequisite(s): Consent of department counselor and instructor

Equivalent Course(s): MAAD 24850

## CMSC 34901. Special Topics in Operations Mgt./Mgt. Science. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 40901

## CMSC 35000. Introduction to Artificial Intelligence. 100 Units.

This course introduces the theoretical, technical, and philosophical aspects of Artificial Intelligence. We emphasize computational and mathematical modes of inquiry into the structure and function of intelligent systems. Topics include learning and inference, speech and language, vision and robotics, and reasoning and search.

## CMSC 35050. Computational Linguistics. 100 Units.

This course introduces the problems of computational linguistics and the techniques used to deal with them, focusing primarily on probabilistic models and techniques. Topics are drawn primarily from phonology, morphology, and syntax. Special topics include automatic learning of grammatical structure and the treatment of languages other than English. Instructor(s): J. Goldsmith Terms Offered: Spring

Prerequisite(s): CMSC 12200, 15200 or 16200, or by consent

Equivalent Course(s): DIGS 30013, LING 38600

## CMSC 35100. Natural Language Processing. 100 Units.

This course introduces the theory and practice of natural language processing, with applications to both text and speech. Topics include regular expressions, finite state automata, morphology, part of speech tagging, context free grammars, parsing, semantics, discourse, and dialogue. Symbolic and probabilistic models are presented. Techniques for automatic acquisition of linguistic knowledge are emphasized.

#### CMSC 35110. Speech Technologies. 100 Units.

This course will introduce techniques used in speech technologies, mainly focusing on speech recognition. Speech recognition is one of the oldest and most complex structured sequence prediction tasks receiving significant research and commercial attention, and therefore provides a good case study for many of the techniques that are used in other areas of artificial intelligence involving sequence modeling. It is also a good example of the effectiveness of combining statistics and learning with domain knowledge. The course will include practical homework exercises using Matlab and speech toolkits. Expected outcomes: Understand and apply tools for analyzing speech time series such as Fourier analysis and dynamic time warping. Understand and apply hidden Markov models, Gaussian mixtures, and the EM algorithm for speech problems. Understand and apply n-gram language models, smoothing techniques, and their application to speech recognition. Understand generative and discriminative structured prediction approaches for speech problems. Equivalent Course(s): TTIC 31110

## CMSC 35200. Deep Learning Systems. 100 Units.

Deep learning is emerging as a major technique for solving problems in a variety of fields, including computer vision, personalized medicine, autonomous vehicles, and natural language processing. Critical to success in these target domains is the development of learning systems: deep learning frameworks that support the tasks of learning complex models and inferencing with those models, and targeting heterogeneous computing devices. This course is aimed as an introduction to this topic. We will cover various aspects of deep learning systems; including: basics of deep learning, programming models for expressing machine learning models, automatic differentiation methods used to compute gradients for training, memory optimization, scheduling, data and model parallel and distributed learning, hardware acceleration, domain specific languages, workflows for large-scale machine learning including hyper parameter optimization and uncertainty quantification, and training data and model serving. The goal is to present a comprehensive picture of how current deep learning systems work, discuss and explore research opportunities, for extending and building on existing frameworks, and deep dive into the accelerators being developed by numerous startups to address the needs of the machine learning community. A typical week will contain one lecture on a specific aspect of deep learning systems and one lab session exploring technologies such as Keras, Tensorflow, CNTK, Mxnet, and PyTorch.

Instructor(s): Ian Foster, Rick Stevens Terms Offered: Autumn

Note(s): This course will provide useful background for students wishing to take our Spring 2019 class on Neuromorphic Computing.

#### CMSC 35230. Applications of Machine Learning in Large-Scale Computing Systems. 100 Units.

Recent research has demonstrated the feasibility of replacing the traditional heuristics used in computer systems with ones learned from data in areas such as scheduling, data structure design, query optimization, compilers, and control of warehouse scale computing systems. This seminar overviews this recent research trend and studies the characteristics of successful research in this space. The objective is to understand whether this trend will have a long-term impact on the design and implementation of large-scale computing systems. The seminar hopes to highlight the remaining bottlenecks to practical acceptance of machine learning in computing infrastructure and to inspire future systems and learning research. Terms Offered: Winter

Prerequisite(s): Good working knowledge of computer systems, especially in the areas of operating systems and databases.

### CMSC 35246. Deep Learning. 100 Units.

Deep Neural Networks are remarkably effective in large scale learning problems, especially in speech recognition and computer vision. This course aims to cover the basics of Deep Learning, some of the underlying theory, and specific architectures, including Convolutional Neural Networks, Recurrent Neural Networks and the Long Short Term Memory Networks.

## CMSC 35300. Mathematical Foundations of Machine Learning. 100 Units.

This course is an introduction to the mathematical foundations of machine learning that focuses on matrix methods and features real-world applications ranging from classification and clustering to denoising and data analysis. Mathematical topics covered include linear equations, regression, regularization, the singular value decomposition, and iterative algorithms. Machine learning topics include the lasso, support vector machines, kernel methods, clustering, dictionary learning, neural networks, and deep learning. Students are expected to have taken calculus and have exposure to numerical computing (e.g. Matlab, Python, Julia, R). Appropriate for graduate students or advanced undergraduates. Instructor(s): Rebecca Willett Terms Offered: Winter

Prerequisite(s): Competence programming in Matlab, Julia, R, Python, or an equivalent system; knowledge of calculus, mathematical maturity.

## CMSC 35350. Neuromorphic Computing. 100 Units.

The human brain consumes around 20 watts-less energy than a lightbulb-but can perform tasks, such as understanding natural language and interpreting images, that tax megawatt-scale supercomputers. Thus, we may wonder: can we achieve energy efficiencies similar to those of the human brain by building analog electronic circuits that mimic the neuro-biological architectures found in animal nervous systems? This concept, named neuromorphic computing, has become increasingly popular as the energy demands of conventional computers increase. Research in this area is producing a great variety of new computational architectures, microelectronics concepts, algorithmic approaches, and even neuroscience insights. Our goal in this course is to introduce students to the state of knowledge in neuromorphic computing, not by prepare them to undertake original research in this area. The class will be organized primarily around reading, presenting, and discussing research papers. Topics to be covered include: Neuromorphic concepts Theory and algorithms Microelectronics and devices Programming models and environments Applications: Machine learning, deep learning, robot control, ... Platforms: BrainScaleS, Lohi, SpiNNaker Neuroscience

Terms Offered: Spring TBD

## CMSC 35400. Machine Learning. 100 Units.

This course provides hands-on experience with a range of contemporary machine learning algorithms, as well as an introduction to the theoretical aspects of the subject. Topics covered include: the PAC framework, Bayesian learning, graphical models, clustering, dimensionality reduction, kernel methods including SVMs, matrix completion, neural networks, and an introduction to statistical learning theory.

Terms Offered: Spring

Prerequisite(s): Consent of instructor Equivalent Course(s): STAT 37710, CAAM 37710

## CMSC 35401. Topics in Machine Learning: Applied Machine Learning. 100 Units.

We will cover recent research in applied machine learning and systems, particularly with respect to questions of robustness and resilience against attacks on deep learning systems. Students will present papers, lead discussion, and run open ended projects related to the topic.

Terms Offered: TBD Winter

## CMSC 35410. Spectral Methods for Machine Learning and Network Analysis. 100 Units.

An introduction to spectral algorithms, emphasizing their power to tackle practical problems in the analysis of networks and high-dimensional data. Topics include spectral graph theory, random walks over networks and their convergence, spectral clustering, subspace projections and embeddings, and numerical algorithms for fundamental linear-algebraic problems. Instructor(s): Lorenzo Orecchia Terms Offered: Autumn

## CMSC 35425. Topics in Statistical Machine Learning. 100 Units.

Topics in Statistical Machine Learning" is a second graduate level course in machine learning, assuming students have had previous exposure to machine learning and statistical theory. The emphasis of the course is on statistical methodology, learning theory, and algorithms for large-scale, high dimensional data. The selection of topics is influenced by recent research results, and students can take the course in more than one quarter.

Terms Offered: To be determined Equivalent Course(s): STAT 37790

## CMSC 35470. Mathematical Computation IIA: Convex Optimization. 100 Units.

The course will cover techniques in unconstrained and constrained convex optimization and a practical introduction to convex duality. The course will focus on (1) formulating and understanding convex optimization problems and studying their properties; (2) understanding and using the dual; and (3) presenting and understanding optimization approaches, including interior point methods and first order methods for non-smooth problems. Examples will be mostly from data fitting, statistics and machine learning.

Instructor(s): Nathan Srebro Terms Offered: Winter Prerequisite(s): STAT 30900/CMSC 37810 Equivalent Course(s): CAAM 31015, STAT 31015, TTIC 31070, BUSN 36903

## CMSC 35480. Topics in Optimization. 100 Units.

Graduate study of topic in optimization.

Instructor(s): Lorenzo Orecchia Terms Offered: Autumn

## CMSC 35490. Special Topics in Machine Learning. 100 Units.

Learned emulators leverage neural networks to increase the speed of physics simulations in climate models, astrophysics, high-energy physics, and more. Recent empirical results have illustrated that these emulators can speed up traditional simulations by up to eight orders of magnitude. However, little is understood about these emulators. While it is possible that recent results are representative of what is possible in most settings, a more likely scenario is that these approaches are more effective for some simulators than others, and that learned emulators achieve strong average-case performance but fail to capture rare but important phenomena. In this graduate seminar course we will provide an overview and investigate recent literature on this topic, focusing on the following questions: 1. Introduction to learned emulators: how do they work, where have they been successful so far and what are the goals in this field? 2. Two different paradigms of learned emulation: physics vs. data driven. What are the advantages and pitfalls of each? 3. Robustness of emulation to noise: what is known so far? 4. Parameter estimation: how to handle parameter uncertainty? We will provide a list of papers covering the above topics and students will be evaluated on in-class presentations.

Instructor(s): Dana Mendelson (Math) and Rebecca Willett (CS/Stats) Terms Offered: Autumn

Prerequisite(s): Students should be familiar with a numerical programming language like Python, Julia, R, or Matlab and the content of CMSC 35400. Students should also have familiarity with the contents of MATH 27300 and MATH 27500 or similar.

Note(s): Because this is a seminar course, it will be capped at 15 students, 4 Math, 4 CS/Stats, and 7 with instructor permission.

Equivalent Course(s): CAAM 37794, MATH 37794, STAT 37794

CMSC 35600. Image Processing/Computer Vision. 100 Units. Equivalent Course(s): MPHY 39600

## CMSC 35620. Computational Linguistics II. 100 Units.

This is the second in a two-course sequence providing an introduction to topics at the intersection of computation and language, oriented toward linguists and cognitive scientists. In this quarter we will cover more advanced topics in cognitive/ linguistic modeling and natural language processing (NLP), applying more complex programming and mathematical foundations. Our goal in this quarter is for students to leave the course able to implement advanced models and conduct novel research in cognitive/linguistic modeling and NLP.

Instructor(s): Allyson Ettinger Terms Offered: Winter

Prerequisite(s): Computational Linguistics I or permission of instructor Equivalent Course(s): LING 28620, CMSC 25620, LING 38620

## CMSC 35900. Topics in Artificial Intelligence. 100 Units.

This course covers topics in artificial intelligence.

Terms Offered: Autumn, Winter, Spring

Prerequisite(s): Consent of department counselor and instructor

## CMSC 36500. Algorithms in Finite Groups. 100 Units.

We consider the asymptotic complexity of some of the basic problems of computational group theory. The course demonstrates the relevance of a mix of mathematical techniques, ranging from combinatorial ideas, the elements of probability theory, and elementary group theory, to the theories of rapidly mixing Markov chains, applications of simply stated consequences of the Classification of Finite Simple Groups (CFSG), and, occasionally, detailed information about finite simple groups. No programming problems are assigned.

Instructor(s): L. Babai Terms Offered: Spring

Prerequisite(s): Consent of department counselor. Linear algebra, finite fields, and a first course in group theory (Jordan-Holder and Sylow theorems) required; prior knowledge of algorithms not required Note(s): This course is offered in alternate years.

Equivalent Course(s): MATH 37500

## CMSC 37000. Algorithms. 100 Units.

This is a graduate level course on algorithms with the emphasis on central combinatorial optimization problems and advanced methods for algorithm design and analysis. Topics covered include asymptotic analysis, greedy algorithms, dynamic programming, amortized analysis, randomized algorithms and probabilistic methods, combinatorial optimization and approximation algorithms, linear programming, and advanced data structures. Expected outcomes: Ability to design and rigorously analyze algorithms paradigms such as greedy or dynamic programming. Understand the use of linear programming in optimization. Be able to formulate problems as linear programs. Understand linear programming duality and applications to problems such as max-flow/min-cut. Be able to write duals for linear programs. Instructor(s): Yury Makarychev Terms Offered: Winter

Prerequisite(s): Assumes familiarity with proofs and an the asymptotic notation. Some basic knowledge of the notion of NPhardness is also required.

Equivalent Course(s): TTIC 31010

## CMSC 37100. Topics in Algorithms. 100 Units.

This course covers current topics in algorithms.

Terms Offered: Autumn, Winter, Spring

Prerequisite(s): Consent of department counselor. CMSC 27200 or consent of instructor.

### CMSC 37110. Discrete Mathematics. 100 Units.

This course emphasizes mathematical discovery and rigorous proof, illustrated on a variety of accessible and useful topics, including basic number theory, asymptotic growth of sequences, combinatorics and graph theory, discrete probability, and finite Markov chains. This course includes an introduction to linear algebra.

Instructor(s): L. Babai Terms Offered: Autumn

Prerequisite(s): Consent of department counselor and instructor

#### CMSC 37115. Introduction to Mathematical Reasoning via Discrete Mathematics. 100 Units.

In this course, students with little prior exposure to rigorous mathematical reasoning gain experience in approaching mathematical questions, developing concepts, formalizing ideas, turning intuition into rigorous proof. These phases of mathematical thinking are illustrated on a variety of accessible and useful topics. Students practice the quantifier notation both as a shorthand and as one of the organizing principles of formal statements. New concepts are built from such basic mathematical primitives as numbers, sets, and functions. Basic counting is a recurring theme and provides a source for sequences, another recurring theme, which in turn feeds into the study of asymptotic behavior (rates of growth). Further topics to be covered include proof by induction; the elements of number theory (gcd, congruences, the Chinese Remainder Theorem, Fermat's little Theorem); recurrences, Fibonacci numbers, generating functions; the elements of graph theory (trees, paths and cycle, chromatic number, independent sets and cliques, connectivity, planarity, directed graphs), finite probability spaces, random variables, expected value and variance, independence, concentration inequalities, and random graphs.

#### Terms Offered: Winter

Prerequisite(s): One quarter of calculus

CMSC 37120. Topics in Discrete Mathematics. 100 Units. Equivalent Course(s): MATH 37120

#### CMSC 37200. Combinatorics. 100 Units.

Methods of enumeration, construction, and proof of existence of discrete structures are discussed. The course emphasizes applications of linear algebra, number theory, and the probabilistic method to combinatorics. Applications to the theory of computing are indicated, and open problems are discussed.

Instructor(s): L. Babai Terms Offered: Spring

Prerequisite(s): Consent of department counselor. Linear algebra, basic combinatorics, or consent of instructor.

#### CMSC 37503. Approximation Algorithms. 100 Units.

This is a basic course on approximation algorithms, with the main focus on approximation algorithms for central combinatorial optimization problems. We will mostly focus on classical algorithmic results, but will also present some state of the art results and challenges in the area of approximation. The course will cover major algorithmic techniques, including LP-rounding, primal-dual schema, metric methods, SDP rounding and so on. While the main focus of the course is on algorithms, we will also discuss lower bounds on approximation and connections between algorithm design and lower bound proofs. Assumes the knowledge of material covered in the Algorithms course. Expected outcomes: Understand concepts such as approximation factor, polynomial time approximation schemes and hardness of approximation. Understand applications of linear programs (LPs) to design of approximation algorithms. Learn to analyze rounding algorithms for LPs and understand integrality gaps. Be able to apply LP duality. Understand semi-definite programming and its applications to approximation.

Instructor(s): Julia Chuzhoy Terms Offered: Autumn Equivalent Course(s): TTIC 31080

#### CMSC 37530. Graph Theory. 100 Units.

This course covers the basics of the theory of finite graphs. Topics include shortest paths, spanning trees, counting techniques, matchings, Hamiltonian cycles, chromatic number, extremal graph theory, Turan's theorem, planarity, Menger's theorem, the max-flow/min-cut theorem, Ramsey theory, directed graphs, strongly connected components, directly acyclic graphs, and tournaments. Techniques studied include the probabilistic method. Instructor(s): Laszlo Babai Terms Offered: Spring

CMSC 37701. Topics in Bioinformatics. 100 Units.

This course covers current topics in bioinformatics. Terms Offered: Autumn, Winter, Spring

Prerequisite(s): Consent of Consent of department counselor and instructor

## CMSC 37810. Mathematical Computation I: Matrix Computation Course. 100 Units.

This is an introductory course on numerical linear algebra, which is quite different from linear algebra. We will be much less interested in algebraic results that follow from axiomatic definitions of fields and vector spaces but much more interested in analytic results that hold only over the real and complex fields. The main objects of interest are realor complex-valued matrices, which may come from differential operators, integral transforms, bilinear and quadratic forms, boundary and coboundary maps, Markov chains, correlations, DNA microarray measurements, movie ratings by viewers, friendship relations in social networks, etc. Numerical linear algebra provides the mathematical and algorithmic tools for analyzing these matrices. Topics covered: basic matrix decompositions LU, QR, SVD; Gaussian elimination and LU/LDU decompositions; backward error analysis, Gram-Schmidt orthogonalization and QR/complete orthogonal decompositions; solving linear systems, least squares, and total least squares problem; low-rank matrix approximations and matrix completion. We shall also include a brief overview of stationary and Krylov subspace iterative methods; eigenvalue and singular value problems; and sparse linear algebra.

## Terms Offered: Autumn

Prerequisite(s): Linear algebra (STAT 24300 or equivalent) and some previous experience with statistics. Equivalent Course(s): STAT 30900, CAAM 30900

## CMSC 37812. Mathematical Computation III: Numerical Methods for PDE's. 100 Units.

The first part of this course introduces basic properties of PDE's; finite difference discretizations; and stability, consistency, convergence, and Lax's equivalence theorem. We also cover examples of finite difference schemes; simple stability analysis; convergence analysis and order of accuracy; consistency analysis and errors (i.e., dissipative and dispersive errors); and unconditional stability and implicit schemes. The second part of this course includes solution of stiff systems in 1, 2, and 3D; direct vs. iterative methods (i.e., banded and sparse LU factorizations); and Jacobi, Gauss-Seidel, multigrid, conjugate gradient, and GMRES iterations.

#### Terms Offered: Spring

Prerequisite(s): Some prior exposure to differential equations and linear algebra Equivalent Course(s): CAAM 31100, STAT 31100, MATH 38309

## CMSC 38000-38100. Computability Theory I-II.

The courses in this sequence are offered in alternate years.

## CMSC 38000. Computability Theory I. 100 Units.

We investigate the computability and relative computability of functions and sets. Topics include mathematical models for computations, basic results such as the recursion theorem, computably enumerable sets, and priority methods. Instructor(s): D. Hirschfeldt Terms Offered: Spring Prerequisite(s): Consent of department counselor. MATH 25500 or consent of instructor. Equivalent Course(s): MATH 30200

## CMSC 38100. Computability Theory II. 100 Units.

CMSC 38100 treats classification of sets by the degree of information they encode, algebraic structure and degrees of recursively enumerable sets, advanced priority methods, and generalized recursion theory.

Instructor(s): D. Hirschfeldt Terms Offered: Spring

Prerequisite(s): Consent of department counselor. MATH 25500 or consent of instructor.

Equivalent Course(s): MATH 30300

## CMSC 38130. Honors Introduction to Complexity Theory. 100 Units.

Computability topics are discussed (e.g., the s-m-n theorem and the recursion theorem, resource-bounded computation). This course introduces complexity theory. Relationships between space and time, determinism and non-determinism, NPcompleteness, and the P versus NP question are investigated.

Terms Offered: Winter

## CMSC 38300. Numerical Solutions to Partial Differential Equations. 100 Units.

This course covers the basic mathematical theory behind numerical solution of partial differential equations. We investigate the convergence properties of finite element, finite difference and other discretization methods for solving partial differential equations, introducing Sobolev spaces and polynomial approximation theory. We emphasize error estimators, adaptivity, and optimal-order solvers for linear systems arising from PDEs. Special topics include PDEs of fluid mechanics, max-norm error estimates, and Banach-space operator-interpolation techniques.

Instructor(s): L. R. Scott Terms Offered: Spring. This course is offered in alternate years.

Prerequisite(s): Consent of department counselor and instructor

Equivalent Course(s): MATH 38300

## CMSC 38400. Cryptography. 100 Units.

Cryptography is the use of algorithms to protect information from adversaries. Though its origins are ancient, cryptography now underlies everyday technologies including the Internet, wifi, cell phones, payment systems, and more. This course is an introduction to the design and analysis of cryptography, including how "security" is defined, how practical cryptographic algorithms work, and how to exploit flaws in cryptography. The course will cover algorithms for symmetric-key and publickey encryption, authentication, digital signatures, hash functions, and other primitives.

Instructor(s): David Cash Terms Offered: Winter

## CMSC 38405. Arithmetic Combinatorics. 100 Units.

This course covers a variety of topics in arithmetic combinatorics such as inverse problems, incidence geometry, uniformity, regularity and pseudo-randomness. A special attention will be paid to connections to classical mathematics and theoretical computer science.

Instructor(s): Alexander Razborov Terms Offered: Spring

Equivalent Course(s): MATH 38405

## CMSC 38410. Quantum Computing. 100 Units.

This course covers mathematical and complexity aspects of quantum computing, putting aside all questions pertaining to its physical realizability. Possible topics include: (1) quantum model of computation, quantum complexity classes, and relations to their classical counterparts; (2) famous quantum algorithms (including Shor and Grover); (3) black-box quantum models (lower and upper bounds); (4) quantum communication complexity (lower and upper bounds); and (5) quantum information theory.

Instructor(s): A. Razborov Terms Offered: Winter. This course is offered in alternate years.

Prerequisite(s): Consent of department counselor. Basic knowledge of computational complexity and linear algebra required; knowledge of quantum mechanics not required

Note(s): Not offered in 2016-17.

Equivalent Course(s): MATH 38410

## CMSC 38500. Computability and Complexity Theory. 100 Units.

Part one of this course consists of models for defining computable functions: primitive recursive functions, (general) recursive functions, and Turing machines; the Church-Turing Thesis; unsolvable problems; diagonalization; and properties of computably enumerable sets. Part two of this course deals with Kolmogorov (resource bounded) complexity: the quantity of information in individual objects. Part three of this course covers functions computable with time and space bounds of the Turing machine: polynomial time computability, the classes P and NP, NP-complete problems, polynomial time hierarchy, and P-space complete problems.

Instructor(s): A. Razborov Terms Offered: Winter Prerequisite(s): Consent of department counselor and instructor Note(s): Not offered in 2016-17. Equivalent Course(s): MATH 30500, TTIC 31060

## CMSC 38502. Topics in Combinatorics and Logic. 100 Units.

We will discuss several ideas, methods and results in Combinatorics and those parts of Mathematical Logic that are close to Theoretical Computer Science. Complexity Theory itself is excluded this year since I will teach a more systematic course on the subject in the Spring Quarter.

Instructor(s): Alexander Razborov Terms Offered: Winter

Prerequisite(s): None Equivalent Course(s): MATH 38502

## CMSC 38600. Complexity Theory A. 100 Units.

This course covers topics in computational complexity theory, with an emphasis on machine-based complexity classes. Terms Offered: Spring

Prerequisite(s): Consent of department counselor and instructor

## CMSC 38700. Complexity Theory B. 100 Units.

This course covers topics in computational complexity theory, with an emphasis on combinatorial problems in complexity. Instructor(s): A. Razborov Terms Offered: Spring Prerequisite(s): Consent of department counselor and instructor

Equivalent Course(s): MATH 38703

## CMSC 38800. Complexity Theory. 100 Units.

Complexity Theory is the branch of Theoretical Computer Science that studies inherent limitations on the efficiency of performing various computational tasks. In this course I hope to cover at least the most fundamental results from uniform (Turing) complexity, circuit complexity, communication complexity, algebraic complexity and proof complexity. Instructor(s): Alexander Razborov Terms Offered: Spring

Prerequisite(s): None, but some familiarity with the book 'Computational Complexity' by Arora and Barak might be helpful. Equivalent Course(s): MATH 38800

## CMSC 38815. Geometric Complexity. 100 Units.

This course provides a basic introduction to geometric complexity theory, an approach to the P vs. NP and related problems through algebraic geometry and representation theory. No background in algebraic geometry or representation theory will be assumed.

Instructor(s): K. Mulmuley Terms Offered: Autumn. This course is offered in alternate years.

Prerequisite(s): Consent of department counselor and instructor Note(s): Background in algebraic geometry or representation theory not required

Equivalent Course(s): MATH 38815

## CMSC 39000. Computational Geometry. 100 Units.

This course is a seminar on topics in computational geometry. Instructor(s): K. Mulmuley Terms Offered: Spring. This course is offered in alternate years.

Note(s): Not offered in 2016-17.

## CMSC 39010. Computational and Metric Geometry. 100 Units.

The course covers fundamental concepts, algorithms and techniques in computational and metric geometry. Topics covered include: convex hulls, polygon triangulations, range searching, segment intersection, Voronoi diagrams, Delaunay triangulations, metric and normed spaces, low-distortion metric embeddings and their applications in approximation algorithms, padded decomposition of metric spaces, Johnson-Lindenstrauss transform and dimension reduction, approximate nearest neighbor search and locality-sensitive hashing. Expected outcomes: -- Know standard algorithms and data structures for solving geometric problems -- Be able to design efficient algorithms and data structures for solving geometric problems -- Be able to design efficient algorithms and data structures for solving geometric problems -- Understand basic concepts of metric geometry such as metric and normed space, low distortion embedding, dimension reduction, nearest neighbor search. -- Understand applications of metric geometry to the field of approximation algorithms and other areas of computer science.

Instructor(s): Makarychev, Yury Terms Offered: Winter

Prerequisite(s): Undergraduate-level algorithms, linear algebra and probability classes; a good background in mathematical analysis/calculus.

Equivalent Course(s): TTIC 31100

#### CMSC 39020. Geometry, Complexity and Algorithms. 100 Units.

This course will try to explore these three topics and their interactions. Among the topics likely to be discussed are metric measure geometry (e.g. concentration of measure) and its use designing algorithms, machine learning, manifold learning, the complexity of the construction of isotopies and nullcobordisms, the Blum-Cucker-Smale theory of real computation and estimates for the complexity of root finding and related problems, persistence homology and applications, and other topics that seem like a good idea as the course develops.

Equivalent Course(s): MATH 38900

## CMSC 39600. Topics in Theoretical Computer Science. 100 Units.

A seminar on current research in theoretical computer science. Terms Offered: Autumn,Winter,Spring Prerequisite(s): Consent of department counselor and instructor

CMSC 39800. Rdg/Rsch: Computer Science. 300.00 Units.

Directed reading and research in computer science, under the guidance of a faculty member.

## CMSC 70000. Advanced Study: Computer Science. 300.00 Units.

Advanced Study: Computer Science


# Department of the Geophysical Sciences

Chair

Fred Ciesla

Professors

- David Archer
- Andrew Campbell
- Fred Ciesla
- Nicolas Dauphas
- Andrew M. Davis
- Michael J. Foote
- David Jablonski
- Susan M. Kidwell
- Douglas R. MacAyeal
- Noboru Nakamura
- Michael J. Pellin (part-time)
- David B. Rowley

Associate Professors

- Dorian Abbot
- Philipp Heck (part time)
- Dion L. Heinz
- Elisabeth J. Moyer
- Tiffany Shaw
- Mark Webster
- Assistant Professors

#### Clara Blättler

- Maureen Coleman
- Malte Jansen
- Edwin Kite
- Graham J. Slater
- Jacob Waldbauer

Emeritus Faculty

- Victor Barcilon
- John E. Frederick
- Lawrence Grossman
- Michael C. LaBarbera, Organismal Biology & Anatomy
- Robert C. Newton
- Frank M. Richter
- Ramesh C. Srivastava
- Alfred M. Ziegler

# Program of Graduate Study

# Overview and Philosophy

The department serves graduate students who seek the Ph.D. in Earth, planetary, geological and environmental sciences and the paleontological and paleobiological disciplines of biological and historical sciences broadly conceived.

The Ph.D. signifies the graduate's mastery of the problems, techniques and knowledge covering the full spectrum of intellectual pursuit in the many disciplines listed above. The degree additionally acknowledges the candidate's contribution to specialized knowledge through original research conducted in experimental, observational and theoretical venues. The M.S. is also awarded to graduate students in the program, and is given in recognition of post-undergraduate scholarship. Students considering the program of graduate study should realize, however, that it is conceived primarily for study and research leading to the Ph.D.

The Department of the Geophysical Sciences was created in 1961 when the departments of geology and meteorology of the university were united to better embrace the multidisciplinary nature of research and scholarship applied to Earth, its place in the cosmos and its environmental and biological history. The precursor Department of Geology was founded in the 1890's and reflected the University of Chicago's distinctively modern philosophy toward education and research. What is today lauded as new, namely the approach to physical, chemical, biological and natural science of Earth that values connections and multidisciplinary ways of thinking, was the original organizing principle of the university's activities in Earth science at the time the university was first created. Faithful to its original conception, the department is exemplified today by the diverse, yet interactive, composition of the faculty, students and research activities.

Our program distinguishes itself from those at other institutions through our rigorous adherence to a principle that the path to knowledge in Earth sciences is best traveled when disciplinary ways of thinking are applied interactively. To follow this path, our students and faculty engage each other in a constant exchange of ideas that spans a variety of specialized interests and disciplines. Indeed, the range of specialized interests and disciplines encompassed by our single intimate community is, at typical universities elsewhere, housed in separate departments. The exchange of ideas our community offers is both literal (as when research techniques from one discipline are applied in another) and figurative (as when students of diverse background and interests attend a common seminar), and is marshaled through our philosophical view that intellectual power is drawn from many sources. The tension created by bringing together disparate disciplines with differing traditions leads to constructive discourse in our community.

#### Areas of Study

Research, classroom teaching and seminar activity in the program reflect the long tradition of esteem directed toward multidisciplinary knowledge. Graduate study and research today thus ranges from geochemical approaches to nucleosynthesis and planet forming cosmochemistry to geomorphology, from evolutionary paleobiology to microbial ecology, and from climate dynamics of Earth and other planets, biogeochemical cycles to early Earth geochemistry. Graduate students are exposed to the breadth of intellectual activity in the physical and natural science of the Earth through courses they take during their first two years of study and through weekly attendance of seminars where both faculty and visiting scientific discourse across the full range of disciplines. Second is the ability to conduct original research leading to unique contributions in an area of specialization.

Research and teaching within the program is further amplified by associations with other groups within the university. The most notable programs allied with ours are: the committee on evolutionary biology (CEB, research on the evolution of life), the chemistry department (research on atmospheric and environmental chemistry), the department of astronomy and astrophysics (research on exoplanets), the Argonne National Lab (environmental chemistry, advanced computing, the Advanced Photon Source, CARS), the center for robust decision making on climate and energy policy (RDCEP), and the department of statistics.

#### Student Advising

A distinctive element in the everyday life of the department is the mentoring relationship the faculty of the department provide for students of the program. In our program, students are regarded as colleagues, not subordinates. Students are guided in their learning and research activities by mentorship engaging both the program faculty and fellow students. This mentorship oversees both the course work activity and the student's research, and is conceived as a means of establishing the student as a full partner in research and scholarship. Formal mentoring activities involve regular academic advisory committee meetings that include a combination of faculty covering the student's field of specialty and faculty covering allied fields where cross disciplinary exchange of ideas or techniques may prove helpful to the student's progress. In addition to formal activities, mentoring also proceeds along informal avenues: the department faculty prides itself in maintaining an open door atmosphere, where students seeking help or advice can readily find it down the hall.

#### Research

Dissertation research can address any aspect of physical, chemical, biological and natural sciences of the Earth, its life and environment, and the solar system environment from which the planets were formed. Typically, dissertation research begins in the second year of the student's residence after courses taken in preparation for the preliminary examination have been completed and an oral research prospectus has been defended.

#### Teaching, Outreach and Professional Skills Development

Young scientists are faced with an ever increasing demand for breadth in the scope of their professional skills: from teaching to proposal writing, and from website design to mountaineering. To help prepare our students for the varied challenges they will encounter in their post graduate career, we involve them to the maximum extent possible in teaching, research planning, public outreach and field activity. While there are no strict requirements for teaching activities, the majority of our students participate in at least some teaching as laboratory assistants for the large, undergraduate-level classes taught by our faculty. Typical demands on a graduate student's time might involve four to eight hours a week of student contact time, and four to six hours a week of preparation and grading. To emphasize the value the university places on graduate student participation in undergraduate teaching, a slightly larger stipend is provided to teaching assistants over research assistants. In addition to teaching, our graduate students typically become involved in the scientific funding process through exposure to the efforts undertaken by faculty in the securing of research funds through the writing of proposals. Public outreach is also an important element of professional skills, and is emphasized through scientific web site development (required by funding agencies for grants funded in support of scientific research) and other activities (e.g., local science fairs and lectures at surrounding schools) which emphasize contact with the general public. Many of

our graduate students include field work as part of their research projects--from scuba-based sampling in Central America to mapping in Tibet--and we offer formal courses and trips to help students develop their skills for this mode of scientific research. Class trips typically focus on (1) modern and ancient sedimentary environments, which explicitly integrates across geology and biology (every 2-3 years, usually in a tropical or subtropical marine setting); (2) sequence stratigraphy of siliciclastics, mostly Meso-Cenozoic; and (3) integrated structure, tectonics, sedimentation, and paleontology, with an eye to reconstructing paleogeography at regional scales (early Paleozoics of Great Basin and Death Valley; Cenozoic of southerm California). Students also have opportunities to join faculty in some field campaigns, which include oceanographic cruises.

#### Curriculum

The diversity of intellectual pursuit encompassed by the program places students and faculty into a challenging position when confronted with the need to design a curriculum capable of preparing students of the program to become Ph.D. scientists. Our approach to this challenge is to focus on thinking tools that prepare students for research. Thinking tools embody knowledge of methodologies, awareness of fundamental scientific problems, understanding of current research areas and creative thought when encountering difficult questions. These tools are taught, in part, by a curriculum of courses that delve deeply into various subsets of knowledge covered by the department's scholarly interests. While a student may enter the program with the ultimate goal of writing a dissertation in one area of specialization, courses taken in closely allied areas of specialization are often, by virtue of practicality, all that our curriculum offers. While this may seem detrimental to progress toward specialized research, in practice, the specific subject material used to build the student's subsequent success. Our curriculum of courses thus focuses on teaching notions of understanding and methodologies that are universal in their application to a wide range of specialized phenomena.

#### Required Course Activities

This time period is divided into two parts, the pre-candidacy phase where the student focuses on course work and general scholarship, and the candidacy phase where the student focuses on specialized research directed to the completion of the dissertation. While flexibility is a distinct advantage of the department's small, intimate setting of graduate study compared to other, larger programs, graduate students are normally expected to progress through their study as follows. Classes are taken through the first two years of residence at the university, and a preliminary examination is taken normally in the spring of the second year. Classes are selected from the department's graduate courses, appropriate upper-level undergraduate courses and courses offered elsewhere in the university. Selection of courses is made through consultation with a faculty advisory committee, which meets regularly through the first two years of the student's residence.

The preliminary examination taken at the end of the second year of residence serves to promote students to candidacy for the Ph.D. The purpose of the examination is to ensure the student's progress in the two goals of graduate study: breadth of fundamental knowledge, and depth of knowledge in a particular area of specialization (chosen normally to be consistent with the student's anticipated dissertation topic).

The preliminary examination has two parts. The written part (taken either in one single sitting or as a series of written tests taken in conjunction with final exams of courses, depending on the particular situation) covers the aspects of knowledge addressed in courses and in the weekly seminars which students are expected to attend. The oral part requires the student to present a research prospectus to a committee of faculty advisors. The topic of this prospectus is normally expected to be the student's planned research activity directed toward the dissertation.

#### The Dissertation

The Ph.D. degree is awarded to the candidate who has completed a written dissertation, defended it orally to a body of scientists which includes members of the department's faculty (who have the responsibility to vote in favor or against acceptance of the dissertation), and who have submitted the dissertation to the university dissertation office in proper form.

#### Courses

Courses are modified from year to year. Students are expected to consult the Schedule of Classes published by the Office of the University Registrar for information regarding courses offered on an infrequent basis. A student's course load is expected to be three to four classes per quarter during the first five quarters (not including Summer Quarter) of residence. Over this period, the student will take a mixture of high level (designated by numbers greater than 30000) and medium level (designated by numbers in the 2000s) classes listed under the department's offerings, and appropriate courses offered by other departments of the university.

#### Geophysical Sciences Courses

#### GEOS 30200. Introduction to Research in the Geophysical Sciences. 100 Units.

This course is mandatory for all incoming graduate students in the department. Its purpose is to introduce the faculty's current research themes/areas and to familiarize incoming graduate students with research areas they might contemplate for further specialization. Lectures are presented by individual faculty on either 1) a general survey of a research area, or 2) a specialized topic of interest. Student activity varies from year to year and is based on a combination of oral and written presentations.

Instructor(s): Staff Terms Offered: Autumn

# GEOS 30500. Topics in the Geophysical Sciences. 100 Units.

This course is offered from time-to-time as a means of covering topics that are generally not covered by regularly offered courses in the curriculum. Students should consult with appropriate faculty regarding opportunities to take this course when the situation arises.

Instructor(s): Staff Terms Offered: Autumn. Not offered 2017-2018

### GEOS 31000. Mineralogy. 100 Units.

This course covers structure, chemical composition, stability, and occurrence of major rock-forming minerals. Labs concentrate on mineral identification with the optical microscope. (L) Instructor(s): A. Campbell Terms Offered: Winter. Offered every other year. Ecuivalent Course(s): GEOS 21000

# GEOS 31005. Mineral Science. 100 Units.

This course examines the relationship between the structure of minerals, their chemistry, and their physical properties. Topics include crystallography, defect properties, phase transitions, and analytical tools, followed by detailed study of specific mineral groups. Instructor(s): A. Campbell Terns Offered: Winter. Offered every other year. Prerequisite(s): GEOS 21000 or consent of instructor.

Equivalent Course(s): GEOS 21005

# GEOS 31200. Physics of the Earth. 100 Units.

This course considers geophysical evidence bearing on the internal makeup and dynamical behavior of the Earth, including seismology (i.e., properties of elastic waves and their interpretation, and internal structure of the Earth); mechanics of rock deformation (i.e., elastic properties, creep and flow of rocks, faulting, earthquakes); gravity (i.e., geoid, isostasy); geomagnetism (i.e., magnetic properties of rocks and history, origin of the magnetic field); heat flow (i.e., temperature within the Earth, sources of heat, thermal history of the Earth); and plate tectonics and the maintenance of plate motions. (L) Instructor(s): D. Heinz Terms Offered: Spring

Prerequisite(s): Prior calculus and college-level physics courses, or consent of instructor.

Equivalent Course(s): GEOS 21200

# GEOS 31205. Introduction to Seismology, Earthquakes, and Near-Surface Earth Seismicity. 100 Units.

This course introduces the mechanics and phenomenology of elastic waves in the Earth and in the fluids near the Earth's surface (e.g., S and P waves in the solid earth, acoustic waves in the ocean and atmosphere). Topics include stress and strain, constitutive equations, elasticity, seismic waves, acoustic waves, theory of refraction/reflection, surface waves, dispersion, and normal modes of the Earth. Phenomenology addressed includes exploration geophysics (refraction/reflection seismology), earthquakes and earthquake source characterization, seismograms as signals, seismometers and seismological networks, and digital seismogram analysis.

Instructor(s): D. Heinz Terms Offered: Winter Equivalent Course(s): GEOS 21205

#### GEOS 31400. Thermodynamics and Phase Change. 100 Units.

This course develops the thermodynamics of minerals, with emphasis on relations between thermodynamic variables and equations of state. Geological and geochemical applications include homogeneous and heterogeneous phase equilibrium, culminating in the construction of representative multicomponent phase diagrams of petrological significance, and fluid-rock interactions.

Instructor(s): A. Campbell Terms Offered: Winter Prerequisite(s): College-level chemistry and calculus.

Equivalent Course(s): GEOS 21400

# GEOS 31500. Mineral Physics. 100 Units.

The application of physics at the microscopic level to geologic and geophysical problems. Topics: vibrational, electric and transport properties of minerals.

Instructor(s): D. Heinz

Prerequisite(s): 2 yrs. Math beyond Calculus; 1 year Physical Chemistry or 1 year of both Physics and Chemistry; general Geology, general geophysics and Mineralogy, Petrology or equivalent.

# GEOS 32040. Planet Formation in the Galaxy I: From Dust to Planetesimals. 100 Units.

This course examines the physical and chemical processes that operate during the earliest stages of planet formation when dust in a protoplanetary disk aggregates into bodies 1 to 10 km in size. Topics include the physical and chemical evolution of protoplanetary disks, radial transport of dust particles, transient heating events, and the formation of planetesimals. We discuss the evidence of these processes found in meteorites and observed in disks around young stars. Chemical and physical models of dust evolution are introduced, including an overview of basic numerical modeling techniques.

Instructor(s): F. Ciesla

Prerequisite(s): One year of college-level calculus and physics or chemistry, or consent of instructor.

Note(s): This course is offered in alternate years.

Equivalent Course(s): GEOS 22040

# GEOS 32050. Planet Formation in the Galaxy II: From Planetesimals to Planets. 100 Units.

This course explores the stage of planet formation during which 1 to 10 km planetesimals accrete to form planets. Topics include heating of planetesimals, models of giant planet formation, the delivery of water to terrestrial planets, and the impact that stellar mass and external environment have on planet formation. We also discuss what processes determine the properties (mass, composition, and orbital parameters) of a planet and its potential for habitability. Basic modeling techniques and current research papers in peer-reviewed journals are also discussed.

Instructor(s): F. Ciesla Prerequisite(s): Consent of instructor

Equivalent Course(s): GEOS 22050

### GEOS 32060. What Makes a Planet Habitable? 100 Units.

This course explores the factors that determine how habitable planets form and evolve. We will discuss a range of topics, from the formation of planets around stars and the delivery of water, to the formation of atmospheres, climate dynamics, and the conditions that allow for the development of life and the evolution of complex life. Students will be responsible for periodically preparing presentations based on papers in peer-reviewed journals and leading the discussion. This course is part of the College Course Cluster program: Climate Change, Culture and Society.

Instructor(s): Edwin Kite Terms Offered: Winter

Equivalent Course(s): GEOS 22060, ASTR 45900

# GEOS 32080. Astrophysics of Exoplanets. 100 Units.

Extrasolar planets, a.k.a. exoplanets, are planets orbiting other stars. First definitively detected in the mid 1990s, the planet count has rapidly expanded and their physical characterization has sharpened with improved observational techniques. Theoretical studies of planetary formation and evolution are now attempting to understand this statistical sample. The field also aspires to address questions about life in the universe. This course emphasizes hands-on activities, like working with real astronomical data to find and characterize exoplanets. Topics are the radial velocity, transit, and other discovery and characterization techniques; statistical distributions of known planets; comparisons among planet structure and planetary system types; formation in a protoplanetary disk and subsequent dynamical evolution; the goal of finding life on an exoplanet; colonization of exoplanets; and the Fermi paradox.

Instructor(s): Jacob Bean and Daniel Fabrycky Terms Offered: Spring

Prerequisite(s): ASTR 24100 and PHYS 23400 or PHYS 23410; or consent of instructor.

Equivalent Course(s): ASTR 35800, ASTR 25800

#### GEOS 32200. Geochronology. 100 Units.

This course covers the duration of planetary differentiation and the age of the Earth (i.e., extinct and extant chronometers); timescales for building a habitable planet (i.e., the late heavy bombardment, the origin of the atmosphere, the emergence of life, and continent extraction); dating mountains (i.e., absolute ages, exposure ages, and thermochronology); the climate record (i.e., dating layers in sediments and ice cores); and dating recent artifacts (e.g., the Shroud of Turin). Prerequisite(s): Background in college-level geology, physics, and mathematics. Equivalent Course(s): GEOS 32200 Prerequisite(s): Background in college-level geology, physics, and mathematics.

Note(s): Equivalent Course(s): GEOS 32200 Equivalent Course(s): GEOS 22200

# GEOS 32300. Cosmochemistry. 100 Units.

Chemical, mineralogical, and petrographic classifications of meteorites. Topics include: abundances of the elements, origin of the elements and stellar evolution, the interstellar medium and formation of the solar nebula, condensation of the solar system, chemical fractionations in meteorites and planets, age of the solar system, extinct radionuclides in meteorites, isotope anomalies.

Instructor(s): A. Davis Terms Offered: Winter Note(s): This course is offered in alternate years.

### GEOS 32400. Nucleosynthesis and Its Record in the Solar System and Stars. 100 Units.

The course will cover the environments where the chemical elements are made (supernovae, red giant stars, the Big Bang) and the record of nucleosynthesis in meteorites, planets and other stars (both by remote observation and study of stardust in the laboratory). The course is open to graduate students and advanced undergraduates. Instructor(s): Andrew Davis Terms Offered: Autumn

# GEOS 32500. Topics in Planetary Science. 100 Units.

In this seminar we explore the latest research and results in planetary science. General topics to be discuss include planet formation, planetary evolution, spacecraft exploration, and astrobiology. The specific focus for each class offering will be determined by the interests of the faculty and students. Can be taken multiple times for credit since the specific topic will change each quarter.

Instructor(s): Staff Terms Offered: Winter

# GEOS 32600. Topics in Earth Science: The Accretion of Extraterrestrial Matter Throughout Earth's History. 100 Units.

This course will provide a discussion of the nature and variability of extraterrestrial (ET) matter accreted throughout Earth's history that is preserved in the geological record. This record is a rich archive of ET matter whose study not only provides unique insight into the origin and evolution of different Solar System objects but also enables a better understanding of delivery mechanisms. The course will highlight periods of dramatically increased accretion rates and important impact events. This includes events such as the recent Chelyabinsk and Tunguska air blasts, the "global killer" Chicxulub impact 66 Ma ago, the Ordovician meteorite showers, all the way to cataclysmic events that occurred on early Earth. The course will also provide an introduction to related key techniques such as classification with material from the meteorite collection, the identification of impact craters, and the use of tracers of ET material in the geological record.

Instructor(s): P. Heck Terms Offered: Autumn

Prerequisite(s): Background in college-level geology and mineralogy or consent of instructor Equivalent Course(s): GEOS 22600

# GEOS 32700. Analytical Techniques in Geochemistry. 100 Units.

Modern geochemistry requires the use of many sophisticated laboratory instruments. The idea behind GEOS 32700 is to survey the major types of instrumentation used in geochemistry laboratories, including mass spectrometers, electron microscopes, x-ray microanalysis, DNA sequencing, etc. Students should come away from the course with a better appreciation of the inner workings of these instruments rather than treating them as black boxes. As a laboratory portion of the course, students will be trained and do a project using the TESCAN SEM-FIB in the Department of the Geophysical Sciences. The course is open to graduate students and advanced undergraduates. Instructor(s): Andrew M. Davis & Michael J. Pellin Terms Offered: Autumn

Equivalent Course(s): GEOS 22700

# GEOS 33002. Paleobiological Modeling and Analysis-2. 100 Units.

This course is an introduction to multivariate analysis, with emphasis on morphological data and problems in paleontology and evolutionary biology. Topics include: types of data and scales of measurement; data transformations; bivariate analysis; measurement of similarity and difference; clustering; ordination; singular value decomposition; principal component analysis, factor analysis, principal coordinates, correspondence analysis, and other eigenvector methods; and path analysis. Each student will bring a multivariate dataset (not necessarily original) to the course and will write a series of short papers based on analysis of these data. Code written in the R programming language will be supplied for most analyses. Winter quarter, generally in odd numbered years. GEOS 36501 and GEOS 36502 can be taken in either order.

# GEOS 33205. Introductory Glaciology. 100 Units.

The fundamentals of glacier and ice-sheet dynamics and phenomenology will be covered in this introductory course (snow and sea ice will be excluded from this course, however may be taken up in the future). Emphasis will be placed on developing the foundation of continuum mechanics and viscous fluid flow as a means of developing the basic equations of glacier deformation, ice-sheet and -shelf flow, basal processes, glacier hydrology, and unstable modes of flow. This course is intended for advanced undergraduate students in physics, math, geophysical sciences, and related fields as well as graduate students considering research in glaciology and climate dynamics. This course is part of the College Course Cluster program: Climate Change, Culture, and Society.

Instructor(s): D. MacAyeal Terms Offered: Winter

Prerequisite(s): Knowledge of vector calculus, linear algebra, and computer programming.

Equivalent Course(s): GEOS 23205

# GEOS 33300. Advanced Topics in Climate Dynamics. 100 Units.

The course will go beyond radiative-convective equilibrium and explore spatial and temporal aspects of Earth's climate with a focus on the atmosphere. The goal is to gain a physical understanding of Earth's climate and its past and future changes. We will discuss a range of topics from the surface and atmospheric energy balance, hydrological cycle, atmospheric general circulation and energy transport, climate variability, paleoclimate, natural & anthropogenic climate change. The course will combine lectures of the theory and observations underlying our understanding of Earth's climate with student presentations of peer-reviewed papers. The evaluation will be based on a data-analysis project.

Instructor(s): T. Shaw Terms Offered: Spring

Prerequisite(s): GEOS 24220 or equivalent

# GEOS 33600. Chemical Oceanography. 100 Units.

This course explores the chemistry of the ocean system and its variations in space and time. The oceans play an essential role in most (bio)geochemical cycles, interacting in various ways with the atmosphere, sediments, and crust. These interactions can be understood through studying the geochemical and isotopic properties of the ocean, its inputs and outputs, and its evolution as recorded in marine sediments and sedimentary rocks. Topics include: the marine carbon cycle, nutrient cycling, chemical sediments, and hydrothermal systems.

Instructor(s): Clara Blättler Terms Offered: Spring

Prerequisite(s): Completion of one of the following Chemistry Sequences: CHEM 10100-10200-11300 Introductory General Chemistry I-II; Comprehensive General Chemistry III or CHEM 11100-11200-11300 Comprehensive General Chemistry I-III or CHEM 12100-12200-12300 Honors General Chemistry I-III AND either GEOS 13100 or GEOS 13200. Equivalent Course(s): GEOS 23600, ENSC 23600

# GEOS 33800. Global Biogeochemical Cycles. 100 Units.

This survey course covers the geochemistry of the surface of the Earth, focusing on biological and geological processes that shape the distributions of chemical species in the atmosphere, oceans, and terrestrial habitats. Budgets and cycles of carbon, nitrogen, oxygen, phosphorous, and sulfur are discussed, as well as chemical fundamentals of metabolism, weathering, acid-base and dissolution equilibria, and isotopic fractionation. The course examines the central role that life plays in maintaining the chemical disequilibria that characterize Earth's surface environments. The course also explores biogeochemical cycles change (or resist change) over time, as well as the relationships between geochemistry, biological (including human) activity, and Earth's climate.

Instructor(s): J. Waldbauer Terms Offered: Autumn

Prerequisite(s): CHEM 11100-11200 or consent of instructor

Equivalent Course(s): GEOS 23800, ENSC 23800

# GEOS 33825. Topics in Microbial Biogeochemistry. 100 Units.

In this seminar we explore the role of microorganisms in biogeochemical cycles. Topics include microbial metabolism, physiology, ecology and evolution in natural habitats, responses to short- and long-term climate change, and coevolution of life and its environment over Earth history. Can be taken multiple times for credit since the specific topic will change each quarter.

Instructor(s): M. Coleman Terms Offered: Autumn, Winter

#### GEOS 33850. Low Temperature Geochemistry. 100 Units.

This course covers topics related to the geochemistry of Earth's surface, including all its fluid and solid components. Specific emphasis will be placed on stable isotopic tools for understanding modern Earth system processes and the ancient geological record. Seminar format will allow students to choose topics of interest to them and shape the reading and discussion content of the course.

Instructor(s): Clara Blättler Terms Offered: Autumn Equivalent Course(s): ENSC 33850

# GEOS 33900. Environmental Chemistry. 100 Units.

The focus of this course is the fundamental science underlying issues of local and regional scale pollution. In particular, the lifetimes of important pollutants in the air, water, and soils are examined by considering the roles played by photochemistry, surface chemistry, biological processes, and dispersal into the surrounding environment. Specific topics include urban air quality, water quality, long-lived organic toxins, heavy metals, and indoor air pollution. Control measures are also considered. This course is part of the College Course Cluster program: Climate Change, Culture, and Society.

Instructor(s): D. Archer Terms Offered: Autumn

Prerequisite(s): CHEM 11100-11200 or equivalent, and prior calculus course

Equivalent Course(s): ENST 23900, ENSC 23900, GEOS 23900

# GEOS 34200. Fundamentals of Geophysical Fluid Dynamics. 100 Units.

This course is an introduction to geophysical fluid dynamics for upper-level undergraduates and starting graduate students. The topics covered will be the equations of motion, the effects of rotation and stratification, shallow water systems and isentropic coordinates, vorticity and potential vorticity, and simplified equations for the ocean and atmosphere. Instructor(s): D. Abbot Terms Offered: Winter

Prerequisite(s): Knowledge of vector calculus, linear algebra, or consent of instructor Equivalent Course(s): GEOS 24200

#### GEOS 34220. Climate Foundations. 100 Units.

This course introduces the basic physics governing the climate of planets, the Earth in particular but with some consideration of other planets. Topics include atmospheric thermodynamics of wet and dry atmospheres, the hydrological cycle, blackbody radiation, molecular absorption in the atmosphere, the basic principles of radiation balance, and diurnal and seasonal cycles. Students solve problems of increasing complexity, moving from pencil-and-paper problems to programming exercises, to determine surface and atmospheric temperatures and how they evolve. An introduction to scientific programming is provided, but the fluid dynamics of planetary flows is not covered. This course is part of the College Course Cluster program: Climate Change, Culture and Society. (L)

Instructor(s): Liz Moyer Terms Offered: Autumn

Prerequisite(s): Prior physics course (preferably PHYS 13300 and 14300) and knowledge of calculus required; prior geophysical sciences course not required.

Note(s): Prior programming experience helpful but not required.

Equivalent Course(s): GEOS 24220

#### GEOS 34230. Geophysical Fluid Dynamics: Foundations. 100 Units.

This course is for incoming graduate students in physical sciences intending to take further courses in geophysical fluid dynamics, fluid dynamics, condensed matter physics, and other areas requiring this fundamental skill set. It sets the stage for follow-on courses that present the detail of the behavior of fluids and continuums in geophysical, physical, chemical, and other settings. The material may be a student's first contact with continuum mechanics or a remedial or review for students who have previously taken similar courses. Topics include description of material properties in a continuum, including displacement, velocity, and strain rate; scalar, vector, and tensor properties of continuums, strain, strain rate, and stress; derivations and understanding of mass, momentum, and energy conservation principles in a continuum; applications of conservation principles to simple rheological idealizations, including ideal fluids and potential flow, viscous fluids and Navier-Stokes flow, elasticity and deformation; introductory asymptotic analysis, Reynolds number; heat transfer by conduction and convection, convective instability, Rayleigh number; fluids in gravitational fields, stratification, buoyancy; elliptic, parabolic, and hyperbolic partial differential equations, typical properties of each. Prerequisite(s): Vector calculus, linear algebra, advanced classical mechanics, basic knowledge of computing. Undergrads who take this course should intend to complete a second fluid-dynamics course in Geophysical Sciences.

Instructor(s): D. MacAyeal Terms Offered: Autumn

Prerequisite(s): Vector calculus, linear algebra, advanced classical mechanics, basic knowledge of computing. Undergrads who take this course should intend to complete a second fluid-dynamics course in Geophysical Sciences. Equivalent Course(s): GEOS 24230

#### GEOS 34240. Geophysical Fluid Dynamics: Rotation and Stratification. 100 Units.

This course is an introduction to geophysical fluid dynamics for upper-level undergraduates and starting graduate students. The topics covered will be the equations of motion, the effects of rotation and stratification, shallow water systems and isentropic coordinates, vorticity and potential vorticity, and simplified equations for the ocean and atmosphere. Instructor(s): T. Shaw Terms Offered: Winter

Prerequisite(s): PQ: GEOS 24230 or equivalent; Knowledge of mechanics (PHYS 13100 or equivalent), thermodynamics (PHYS 19700 or equivalent), vector calculus and linear algebra (MATH 20000-20100-20200 or equivalent) Equivalent Course(s): GEOS 24240

#### GEOS 34250. Geophysical Fluid Dynamics: Understanding the Motions of the Atmosphere and Oceans. 100 Units.

This course is part of the atmospheres and oceans sequence (GEOS 24220, 24230, 24240, 24250) and is expected to follow Geophysical Fluid Dynamics: Rotation and Stratification (GEOS 24240). The course demonstrates how the fundamental principles of geophysical fluid dynamics are manifested in the large-scale circulation of the atmosphere and oceans and their laboratory analogs. Topics include: balance of forces and the observed structure of the atmospheric and oceanic circulations, statistical description of the spatially and temporally varying circulation, theory of Hadley circulation, waves in the atmosphere and oceans, baroclinic instability, wind-driven ocean circulation.

Instructor(s): N. Nakamura Terms Offered: Spring

Prerequisite(s): GEOS 24230 and 24240, or consent of the instructor. Knowledge of vector calculus, linear algebra, and ordinary differential equations is assumed.

Equivalent Course(s): GEOS 24250

# GEOS 34260. Radiation. 100 Units.

Develops the theory of radiation emission, absorption, and scattering by planetary atmospheres. Emphasis on the derivation and solution of the radiative transfer equation for plane parallel, horizontally homogeneous atmospheres. Instructor(s): D. Abbot

Prerequisite(s): Advanced undergraduate level knowledge of electromagnetic theory, atomic structure, and differential equations.

Equivalent Course(s): GEOS 24260

# GEOS 34300. Paleoclimatology. 100 Units.

This class will cover the theory and reconstruction of the evolution of Earth's climate through geologic time. After reviewing fundamental principles that control Earth's climate, the class will consider aspects of the climate reconstructions that need to be explained theoretically, such as the faint young sun paradox, snowball Earth episodes, Pleistocene glacial / interglacial cycles, and long-term Cenozoic cooling. Then we will switch to a temporal point of view, the history of Earth's climate as driven by plate tectonics and biological evolution, and punctuated by mass extinctions. This will allow us to place the theoretical ideas from the first part of the class into the context of time and biological progressive evolution. Terms Offered: Winter

Prerequisite(s): One quarter of chemistry

Note(s): D. Archer

Equivalent Course(s): GEOS 24300

# GEOS 34400. Topics in Geophysical Fluid Dynamics. 100 Units.

This course teaches science and art of numerical modeling at an elementary level. Classroom discussions on mathematical principles will be supplemented by a series of actual coding assignments. (Command of a programming language is assumed; this is not a course on programming.) It is our goal that at the end of the course each student will have coded a working copy of shallow water model on a rotating sphere (and do science with it). Prereq: Calculus, working knowledge of Fourier Transform and of a programming language (C, Fortran, IDL, etc.), access to a computer with a compiler and runtime environment. No previous experience in fluid dynamics is necessary, although this course alone does not fully prepare one to become a fluid dynamicst.

Instructor(s): N. Nakamura

# GEOS 34530. Turbulence and Transport Processes in the Atmosphere and Oceans. 100 Units.

The atmosphere and oceans exhibit non-linear turbulent motions on a wide range of scales. Yet introductory classes in atmosphere and ocean dynamics focus almost exclusively on linear theories. While there is undoubtedly much to learn from linear theory, statistical descriptions of turbulent flows provide a valuable perspective from a different angle. In this advanced graduate course we will discuss the theory of 3-dimensional, 2-dimensional and quasi-geostrophic turbulence, as well as the role of turbulent motions for the transport of properties in the atmosphere and ocean. We will also discuss the wave-turbulence crossover, and eddy-mean-flow interactions, thus connecting back to linear theories. The format of the course will be a mixture of lectures and student-led paper discussions.

Instructor(s): M. Jansen Terms Offered: Autumn

Prerequisite(s): GEOS 24230 and GEOS 24240 or equivalent; Knowledge of mechanics (PHYS 13100 or equivalent), vector calculus and linear algebra (MATH 20000-20100-20200 or equivalent). Knowledge of the basics of statistics/stochastics is also expected.

### GEOS 34550. Ocean Circulation. 100 Units.

In this course we discuss the dynamics of the global-scale ocean circulation, which plays an important role in the climate system via the transport and storage of heat and carbon. Topics include the wind-driven ocean gyres, the ocean's thermocline, the turbulent Antarctic Circumpolar Current as a critical connector of the major ocean basins, as well as the meridional overturning circulation. The course aims to promote a fundamental understanding of ocean dynamics, rather than a purely empirical treatment, and hence builds on the fluid dynamical equations that govern the oceanic motions. The structure of the course includes a combination of lectures, in-class exercises, and discussion of material read by the students at home. The course is suitable for graduate students and upper-level undergraduates.

Instructor(s): Malte Jansen Terms Offered: Spring

Prerequisite(s): Prerequisite(s): GEOS 24230/34230 and GEOS 24240/34240, or consent of instructor. Knowledge of vector calculus, linear algebra, and ordinary differential equations is assumed.

Equivalent Course(s): GEOS 24550

# GEOS 34600. Introduction to Atmosphere, Ocean, and Climate Modeling. 100 Units.

This hands-on course will discuss how we model atmosphere- ocean- and climate-dynamics using numerical models of varying complexity. We will discuss both the relevant physics as well as numerical techniques, including finite-difference methods for ordinary and partial differential equations, as well as spectral methods. The primary focus of the course will be on relatively simple models, including ID energy balance models, radiative-convective columns, and quasi-geostrophic models for atmosphere and ocean dynamics, which can be fully understood and applied in the context of a quarter-long course. We will end with an overview of the physics and numerics used in more complex general circulation and coupled climate models. The course will be structured using a combination of lectures, in-class exercises, and discussion of homework exercises. Homework will include programming exercises as well as simulations and analysis using existing model code.

# Instructor(s): M. Jansen Terms Offered: Autumn

Prerequisite(s): Prerequisites: GEOS 24220/34220 "Climate foundations"; knowledge of vector calculus, linear algebra, and partial differential equations; basic knowledge of python (could potentially be replaced by significant programming experience in other languages). Recommended: Geophysical fluid dynamics 24220/34220 and 24240/34240. Equivalent Course(s): GEOS 24600

#### GEOS 34705. Energy: Science, Technology, and Human Usage. 100 Units.

This course covers the technologies by which humans appropriate energy for industrial and societal use, from steam turbines to internal combustion engines to photovoltaics. We also discuss the physics and economics of the resulting human energy system: fuel sources and relationship to energy flows in the Earth system; and modeling and simulation of energy production and use. Our goal is to provide a technical foundation for students interested in careers in the energy industry or in energy policy. Field trips required to major energy converters (e.g., coal-fired and nuclear power plants, oil refinery, biogas digester) and users (e.g., steel, fertilizer production). This course is part of the College Course Cluster program: Climate Change, Culture and Society.

Instructor(s): E. Moyer Prerequisite(s): Knowledge of physics or consent of instructor. Note(s): See GEOS 24750/ENSC 21150. Equivalent Course(s): ENST 24705, ENSC 21100, GEOS 24705

### GEOS 34750. Humans in the Earth System. 100 Units.

Human activities now have global-scale impact on the Earth, affecting many major biogeochemical cycles. One third of the Earth's surface is now used for production of food for humans, and CO2, the waste product of human energy use, now substantially affects the Earth's radiative balance. This course provides a framework for understanding humanity as a component of Earth system science. The course covers the Earth's energy flows and cycles of water, carbon, and nitrogen; their interactions; and the role that humans now play in modifying them. Both agriculture and energy technologies can be seen as appropriation of natural energy flows, and we cover the history over which human appropriations have become globally significant. The course merges geophysical and biological sciences and engineering, and includes lab sessions and field trips to agriculture, water management, and energy facilities to promote intuition. One year of university-level science

Terms Offered: Spring Equivalent Course(s): GEOS 24750, ENST 24750, ENSC 21150

#### GEOS 35100. Data Analysis for the Geophysical Sciences. 100 Units.

A graduate-level introduction to probability, modeling, and data analysis. Though some emphasis is given to paleontological problems, the goal is to keep approaches sufficiently general that they should be relevant to students across the geophysical sciences as well as evolutionary biology. Required work includes coding exercises and a term project based on original research.

Instructor(s): M. Foote Terms Offered: Spring

#### GEOS 35400. Intro to Numerical Techniques for Geophysical Sciences. 100 Units.

This class provides an introduction to different types of numerical techniques used in developing models used in geophysical science research. Topics will include how to interpolate and extrapolate functions, develop functional fits to data, integrate a function, or solve partial differential equations. Students are expected to have some familiarity with computers and programming-programming methods will not be discussed in detail. While techniques will be the focus of the class, we will also discuss the planning needed in developing a model as well as the limitations inherent in such models. Instructor(s): Ciesla, F. Terms Offered: Winter

Equivalent Course(s): GEOS 25400

#### GEOS 35500. Mathematical Methods for the Earth Sciences. 100 Units.

This course is intended to be a brief introduction to mathematical methods that may be of use in the Earth Sciences. The focus will be on building physical intuition and practical problem solving. Students may solve problems analytically, or write numerical codes to solve them.

Instructor(s): D. Abbot Terms Offered: Spring

# GEOS 35900. Physics of Planetary Interiors. 100 Units.

This course considers the physical processes governing the interior structure and evolution of planets, both those orbiting the Sun and exoplanets. Topics include an introduction to condensed matter physics relevant to planet interiors; properties of planetary materials; observational constraints; planet modeling; thermal histories; differentiation and core formation; connection to planetary atmospheres; and magnetic field generation.

Instructor(s): Leslie Rogers Terms Offered: Winter

Prerequisite(s): Open to third- and fourth-year undergraduate students majoring in Astrophysics, Physics or the Geophysical Sciences, or students who have completed two quarters of Calculus.

# GEOS 36000. Morphometrics. 100 Units.

This graduate-level course serves as an introduction to the field of morphometrics (the analysis of organismal shape). Quantitative exploratory and confirmatory techniques involving both traditional (length-based) and geometric (landmarkbased) summaries of organismal shape are introduced in a series of lectures and practical exercises. Emphasis is placed on the application of morphometric methods to issues such as (but not restricted to) quantification of intraspecific variability, interspecific differences, disparity, ontogenetic growth patterns (allometry), and phylogenetic changes in morphology. Relevant statistical and algebraic operations are explained assuming no prior background. Students are required to bring personal laptop computers, and are expected to acquire and analyze their own data sets during the course. Instructor(s): M. Webster Terms Offered: Winter

Equivalent Course(s): EVOL 36700

#### GEOS 36050. Models of Morphological Evolution. 100 Units.

Over the past 30 years the study of morphological evolution, from inference of evolutionary process to understanding correlated trait changes, has increasingly relied on phylogenetic approaches. This is due to the realization that species may exhibit similar traits due to shared evolutionary history as much as due to similar adaptive responses to other factors. The field of phylogenetic comparative methods is rapidly expanding. This graduate course will cover basic and advanced models of morphological character evolution that underlie comparative methods, as well as the statistical models themselves. Topics covered in this class will span: Brownian motion as a model of quantitative trait evolution; Independent contrasts and evolutionary regressions; Measuring phylogenetic signal; Alternative models of quantitative trait evolution - early bursts, Ornstein-Uhlenbeck processes, and multivariate data; Discrete traits, Markov processes and the threshold model; Phylogenetic analogues of traditional comparative methods (e.g., ANOVA, PCA). Lectures will cover theory behind concepts but students will also be expected to bring laptops to class so as to write code to simulate data and fit statistical models. All coding will be done in the R statistical language.

Instructor(s): G. Slater Terms Offered: Autumn

### GEOS 36100. Phylogenetics and the Fossil Record. 100 Units.

Phylogenies are branching diagrams that reflect evolutionary relationships. In addition to providing information on the history of life, phylogenies are fundamental to modern methods for studying macroevolutionary and macroecological pattern and process. In the biological sciences, phylogenies are most often inferred from genetic data. In paleobiology, phylogenies can only be inferred from the fossilized remains of morphological structures, and collecting and analyzing morphological data present a different set of challenges. In this course, students will study both traditional and state-of-the-art approaches to inferring phylogenies in the fossil record, from data collection to interpretation. Lectures will explore the statistical underpinnings of phylogenetic methods, as well as their practical implementation in commonly used software. Topics will include: identifying and coding morphological characters, models of morphological evolution, parsimony, maximum likelihood, and bayesian methods, supertree approaches, and integrating time into phylogenetic inference. Fifty percent of the final assessment will come from a research paper due at the end of the quarter.

Instructor(s): G. Slater Terms Offered: Autumn. Course is offered every other year.

Prerequisite(s): BIOS 20197 or equivalent.

Equivalent Course(s): GEOS 26100

# GEOS 36200. Evolution and the Fossil Record. 100 Units.

This course serves as an introduction to the practical and theoretical issues involved in obtaining primary systematic data from the fossil record, and demonstrates the criticality of such data to the rigorous documentation and interpretation of evolutionary patterns. Precise topics of the seminar discussions will vary from year to year depending on relevance to student research projects and interest, but are likely to focus on issues such as (but not restricted to) practical techniques in specimen-based paleontology (including fossil preparation and photography), species delimitation (including species concepts, variability, and ecophenotypy), stratigraphic/geographic range determination (including biostratigraphic correlation), phylogeny reconstruction (including the relevance of stratigraphic data), and the importance of these topics to broader macroevolutionary issues such as diversity/disparity dynamics and the determination of evolutionary trends, rates and processes.

Equivalent Course(s): EVOL 46200

#### GEOS 36300. Invertebrate Paleobiology and Evolution. 100 Units.

This course provides a detailed overview of the morphology, paleobiology, evolutionary history, and practical uses of the invertebrate and microfossil groups commonly found in the fossil record. Emphasis is placed on understanding key anatomical and ecological innovations within each group and interactions among groups responsible for producing the observed changes in diversity, dominance, and ecological community structure through evolutionary time. Labs supplement lecture material with specimen-based and practical application sections. An optional field trip offers experience in the collection of specimens and raw paleontological data. Several "Hot Topics" lectures introduce important, exciting, and often controversial aspects of current paleontological research linked to particular invertebrate groups. (L) Instructor(s): M. Webster Terms Offered: Autumn

Prerequisite(s): GEOS 13100 and 13200, or equivalent. Students majoring in Biological Sciences only; Completion of the general education requirement in the Biological Sciences, or consent of instructor. Equivalent Course(s): BIOS 23261, EVOL 32400, GEOS 26300

#### GEOS 36600. Geobiology. 100 Units.

Geobiology seeks to elucidate the interactions between life and its environments that have shaped the coevolution of the Earth and the biosphere. The course will explore the ways in which biological processes affect the environment and how the evolutionary trajectories of organisms have in turn been influenced by environmental change. In order to reconstruct the history of these processes, we will examine the imprints they leave on both the rock record and on the genomic makeup of living organisms. The metabolism and evolution of microorganisms, and the biogeochemistry they drive, will be a major emphasis.

Instructor(s): M. Coleman, J. Waldbauer

Prerequisite(s): GEOS 13100-13200-13300 or college-level cell & molecular biology Equivalent Course(s): ENSC 24000, GEOS 26600

#### GEOS 36650. Environmental Microbiology. 100 Units.

The objective of this course is to understand how microorganisms alter the geochemistry of their environment. The course will cover fundamental principles of microbial growth, metabolism, genetics, diversity, and ecology, as well as methods used to study microbial communities and activities. It will emphasize microbial roles in elemental cycling, bioremediation, climate, and ecosystem health in a variety of environments including aquatic, soil, sediment, and engineered systems. Instructor(s): M. Coleman Terms Offered: Autumn

Prerequisite(s): CHEM 11100-11200 and BIOS 20186 or BIOS 20197 or BIOS 20198 Equivalent Course(s): GEOS 26650, ENSC 24500

#### GEOS 36700. Taphonomy. 100 Units.

Lecture and research course on patterns and processes of fossilization, including rates and controls of soft tissue decomposition, post mortem behavior of skeletal hard parts, concentration and burial of remains, scales of time averaging, and the net spatial and compositional fidelity of (paleo)biologic information, including trends across environments and evolutionary time. Offered alternate years.

Instructor(s): S. Kidwell Equivalent Course(s): EVOL 31800

# GEOS 36800. Macroevolution. 100 Units.

Patterns and processes of evolution above the species level, in both recent and fossil organism. A survey of the current literature, along with case studies.

Instructor(s): D. Jablonski Terms Offered: Spring Equivalent Course(s): EVOL 31700

## GEOS 36900. Topics in Paleobiology. 100 Units.

In this seminar we investigate paleobiological or multidisciplinary topics of current interest to students and faculty. Previous subjects include the origin of phyla, historical and macro-ecology, the stratigraphic record and evolutionary patterns, and climate and evolution.

Instructor(s): D. Jablonski, S. Kidwell, T. Price Terms Offered: Autumn Equivalent Course(s): ECEV 36900, EVOL 31900

# GEOS 36905. Topics in Conservation Paleobiology. 100 Units.

Paleobiological data from very young sedimentary records, including skeletal 'death assemblages' actively accumulating on modern land surfaces and seabeds, provide unique information on the status of present-day populations, communities, and biomes and their responses to natural and anthropogenic stress over the last few decades to millennia. This course on the emerging discipline of 'conservation paleobiology' uses weekly seminars and individual research projects to introduce how paleontologic methods, applied to modern samples, can address critical issues in the conservation and restoration of biodiversity and natural environments, including such basic questions as 'has a system changed, and if so how and when relative to suspected stressors?'. The course will include hands-on experience, either in the field or with already-collected marine benthic samples, to assess societally relevant ecological change in modern systems over time-frames beyond the reach of direct observation. Enrollment limited.

Instructor(s): S. Kidwell Terms Offered: Winter

Prerequisite(s): Additional Notes For undergraduates: completion of GEOS 13100-13200-13300 or equivalent or completion of a 20000 level course in Palentology.

Equivalent Course(s): EVOL 36905, GEOS 26905

# GEOS 38000. Introduction to Structural Geology. 100 Units.

This course explores the deformation of the Earth materials primarily as observed in the crust. We emphasize stress and strain and their relationship to incremental and finite deformation in crustal rocks, as well as techniques for inferring paleostress and strain in deformed crustal rocks. We also look at mesoscale to macroscale structures and basic techniques of field geology in deformed regions.

Instructor(s): D. Rowley Terms Offered: Winter Prerequisite(s): GEOS 13100 Note(s): This course is offered in alternate years. Equivalent Course(s): GEOS 28000

#### GEOS 38100. Global Tectonics. 100 Units.

This course reviews the spatial and temporal development of tectonic and plate tectonic activity of the globe. We focus on the style of activity at compressive, extensional, and shear margins, as well as on the types of basin evolution associated with each. (L)

Instructor(s): D. Rowley Terms Offered: Autumn

Prerequisite(s): GEOS 13100 or consent of instructor

Note(s): This course is offered in alternate years.

Equivalent Course(s): GEOS 28100

# GEOS 38300. Principles of Stratigraphy. 100 Units.

This course introduces principles and methods of stratigraphy. Topics include facies analysis, physical and biostratigraphic correlation, and development and calibration of the geologic time scale. We also discuss controversies concerning the completeness of the stratigraphic record; origin of sedimentary cycles; and interactions between global sea level, tectonics, and sediment supply. (L)

Instructor(s): S. Kidwell Terms Offered: Autumn

Prerequisite(s): GEOS 13100-13200 or equivalent required; GEOS 23500 and/or 28200 recommended Note(s): This course is offered in alternate years.

Equivalent Course(s): GEOS 28300

# GEOS 38400. Topics in Stratigraphy and Biosedimentology. 100 Units.

Seminar course using the primary literature and/or a field problem. Topic selected from the rapidly evolving fields of sequence stratigraphy, basin analysis, and animal sediment relationships. Equivalent Course(s): EVOL 41500

GEOS 39001. Field Course in Geology. 100 Units.

Students in this course visit classic locations to examine a wide variety of geological environments and processes, including active tectonics, ancient and modern sedimentary environments, and geomorphology.

Prerequisite(s): GEOS 13100-13200 and consent of instructor

Note(s): Interested students should contact the departmental counselor.

Equivalent Course(s): GEOS 29001

### GEOS 39002. Field Course in Modern and Ancient Environments. 100 Units.

This course uses weekly seminars during Winter Quarter to prepare for a one-week field trip over spring break, where students acquire experience with sedimentary rocks and the modern processes responsible for them. Destinations vary; past trips have examined tropical carbonate systems of Jamaica and the Bahamas and subtropical coastal Gulf of California. We usually consider biological, as well as physical, processes of sediment production, dispersal, accumulation, and post-depositional modification.

Instructor(s): S. Kidwell, M. LaBarbera Terms Offered: Winter

Note(s): Organizational meeting and deposit usually required in Autumn Quarter; interested students should contact an instructor in advance. Enrollment allowed by permission of instructor. This course meets weekly in Winter Quarter prior to Spring Break field work.

Equivalent Course(s): ENSC 29002, GEOS 29002

#### GEOS 39500. Theory and Practice of Science Education. 000 Units.

In this seminar, students examine their work as teaching assistants through activities that include self-reflection; investigating relevant educational literature; and engaging in in-depth discussions about their own teaching and learning. Readings and discussion topics include questioning techniques, learning theory, cooperative learning, growth mindset, metacognition, developing relationships with students, equity, and differentiation. Students will try out new ideas each week in their learning teams and report their results in class. In many cases, students provide guidance to one another regarding managing issues that typically arise in their learning teams. The seminar is intended for graduate students who are serving as teaching assistants for the first time, and is typically taken in the same quarter in which the student begins teaching. Instructor(s): Brent Barker Terms Offered: Autumn Spring Winter

Prerequisite(s): Undergraduates serving as course assistants may enroll with instructor consent.

Note(s): Graduate students in Astronomy and Astrophysics and Geophysical Sciences enroll in ASTR 50000 the first quarter in which they will teach.

Equivalent Course(s): ASTR 50000

#### GEOS 39501. Practicum I: Geophysical Sciences. 100 Units.

A practicum in the Geophysical Sciences. Note that this is the first of a two quarter sequence that must be taken in order. Instructor(s): Moyer Terms Offered: Autumn

#### GEOS 39502. Practicum II: Geophysical Sciences. 100 Units.

A practicum in the Geophysical Sciences. Note that this is the second of a two quarter sequence that must be taken in order. Instructor(s): Moyer Terms Offered: Winter

Prerequisite(s): GEOS 39501

#### GEOS 39600. Science Writing Practicum. 100 Units.

Writing is fundamental to science and to the careers of scientists -- even a brilliant scientific idea has no impact if no one understands the paper describing it. In this practicum, students will learn to write papers that communicate their work clearly to the scientific community, that attract citations, and that are compelling even for experts from other fields and members of the general public. The course is intended for students engaged in research and at the stage of working on a paper intended for publication in a peer-reviewed journal, and students are expected to bring their work in progress. Students will learn to evaluate their writing to anticipate its effectiveness with different audiences, and to organize and revise it for maximal impact, using techniques from academic writing and science journalism and insights from cognitive theories of reading. Students from diverse backgrounds will read and critique one another's work weekly, learning to overcome barriers to communication between different communities of scholars and the public. We will also discuss techniques for effective science graphics and oral presentations. The course culminates in a practicum research presentation and production by each student of a final or near-final draft of a manuscript for submission.

Instructor(s): Jeff McMahon Terms Offered: Spring

Prerequisite(s): Consent only. Priority enrollment is given to students in UChicago's NRT research traineeship program on computational environmental sciences (nrt.geosci.uchicago.edu), PI Elisabeth Moyer. Write to jmcmahon@uchicago.edu to request consent to enroll.

Equivalent Course(s): GEOS 29600

# GEOS 39650. Environmental Data Science Practicum I. 100 Units.

Research in climate and environmental sciences is increasingly focused on analyses of complex spatio-temporal data, with satellite observations and detailed numerical simulations providing datasets whose size may reach the Tb range. Relevant research questions also increasingly span disciplinary boundaries. This project-based course is intended to provide students with a structured research experience in working with complex environmental data on a project that should lead to publishable science. The course is the first course of a two-course sequence with GEOS 39660 to be taken in the Spring. Students enroll individually and then form interdisciplinary groups. During the two quarters, groups will work on research projects with guidance from University faculty members and external researchers. Lectures and exercises cover topics in statistics, computer science, data science, and research practices. The course is a requirement for Ph.D. students participating in the University's NSF Research Traineeship program in Computational Training for Energy and Environmental Sciences but enrollment is open to all graduate students, space permitting. Students enrolled in GEOS 39660 for Spring quarter are encouraged to enroll concurrently in GEOS 39600, Science Writing Practicum, which will guide them through completion of a manuscript for submission.

Instructor(s): Elisabeth Moyer/Staff Terms Offered: Winter

Prerequisite(s): Experience in data analysis and programming typical of 2nd-year or advanced 1st-year Ph.D. students in physical, biological, and social sciences.

#### GEOS 39660. Environmental Data Science Practicum II. 100 Units.

This project-based course is a continuation of GEOS 39650, Environmental Data Science Practicum I. The two-course sequence is intended to provide students with a structured research experience in working with complex environmental data on a project that should lead to publishable science. Students enroll individually and then work in interdisciplinary groups on research projects with guidance from University faculty members and external researchers. Lectures and exercises cover topics in statistics, computer science, data science, and research practices. The course is a requirement for Ph.D. students participating in the University's NSF Research Traineeship program in Computational Training for Energy and Environmental Sciences but enrollment is open to all graduate students, space permitting. Students enrolled in GEOS 39660 are encouraged to enroll concurrently in GEOS 39600, Science Writing Practicum, which will guide them through completion of a manuscript for submission.

Instructor(s): Elisabeth Moyer/Staff Terms Offered: Spring

Prerequisite(s): Pre-requisite is GEOS 39650.

#### GEOS 39800. Reading and Research in the Geophysical Sciences for the Maste. 300.00 Units.

An essay or formal thesis will be required.

Instructor(s): Staff Terms Offered: Autumn Spring Summer Winter Prerequisite(s): admission to grad status

# GEOS 49700. Rdg/Rsch: Geophysical Sciences. 300.00 Units.

GEOS 49700-49799. Topics available include, but are not limited to: Mineralogy, Petrology, Geophysics, High Pressure Geophysics, Geodynamics, Volcanology, Cosmochemistry, Geochemistry, Atmospheric Dynamics, Paleoclimatology, Physical Oceanography, Chemical Oceanography, Paleoceanography, Atmospheric Chemistry, Fluid Dynamics, Glaciology, Climatology, Radiative Transfer, Cloud Physics, Morphometrics, Phylogeny, Analytical Paleontology, Evolution, Taphonomy, Macroevolution, Paleobiology, Aktuopaleontology, Paleobotany, Biomechanics, Paleoecology, Tectonics, Stratigraphy.

Instructor(s): Staff Terms Offered: Summer, Autumn, Winter, Spring Prerequisite(s): admission to Ph.D. candidacy

GEOS 49710. Advanced Research: Mineralogy. 300.00 Units.

Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49711. Advanced Research: Petrology. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49712. Advanced Research: Geophysics. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49713. Advanced Research: High Pressure Geophysics. 300.00 Units.

Individualized study focused on Ph.D. research in the geophysical sciences GEOS 49714. Advanced Research: Geodynamics. 300.00 Units.

Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49716. Advanced Research: Geochemistry. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49718. Advanced Research: Volcanology. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49723. Advanced Research: Cosmochemistry. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49732. Advanced Research: Atmospheric Dynamics. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49733. Advanced Research: Paleoceanography. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49735. Advanced Research: Physical Oceanography. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49736. Advanced Research: Chemical Oceanography. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49737. Advanced Research: Cloud Physics. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences.

GEOS 49740. Advanced Research: Atmospheric Chemistry. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49742. Advanced Research: Fluid Dynamics. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

**GEOS 49743. Advanced Research: Glaciology. 300.00 Units.** Individualized study focused on Ph.D. research in the geophysical sciences GEOS 49746. Advanced Research: Climatology. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49748. Advanced Research: Radiative Transfer. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49749. Advanced Research: Paleoclimatology. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49760. Advanced Research: Morphometrics. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49761. Advanced Research: Phylogeny. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49765. Advanced Research: Analytical Paleontology. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49766. Advanced Research: Evolution. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49767. Advanced Research: Taphonomy. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49768. Advanced Research: Macroevolution. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

**GEOS 49769. Advanced Research: Paleobiology. 300.00 Units.** Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49770. Advanced Research: Aktuopaleontology. 300.00 Units.

GEOS 49771. Advanced Research: Paleobotany. 300.00 Units.

GEOS 49772. Advanced Research: Biomechanics. 300.00 Units.

GEOS 49773. Advanced Research: Paleoecology. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49781. Advanced Research: Tectonics. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49783. Advanced Research: Stratigraphy. 300.00 Units. Individualized study focused on Ph.D. research in the geophysical sciences

GEOS 49900. Post Ph. D. Research: Geosci. 300.00 Units. Instructor(s): Staff Terms Offered: Summer, Autumn, Winter, Spring

GEOS 70000. Advanced Study: Geophysical Sciences. 300.00 Units. Advanced Study: Geophysical Sciences



# Department of Mathematics

# Chair

Kevin Corlette

Professors

- Laszlo Babai, Computer Science and Mathematics
- Guillaume Bal, Statistics and Mathematics
- Alexander A. Beilinson
- Danny Calegari
- Francesco Calegari
- Kevin Corlette
- Jack D. Cowan
- Marianna Csörnyei
- Vladimir Drinfeld
- Todd Dupont, Computer Science and Mathematics
- Matthew Emerton
- Alex Eskin
- Benson Farb
- Robert A. Fefferman
- Victor Ginzburg
- Denis Hirschfeldt
- Kazuya Kato
- Carlos E. Kenig
- Gregory Lawler, Mathematics and Statistics
- J. Peter May
- Andre Neves
- Bao Châu Ngô
- Madhav Vithal Nori
- Alexander Razborov, Mathematics and Computer Science
- Luis Silvestre
- Charles Smart
- Panagiotis Souganidis
- Sidney Webster
- Shmuel Weinberger
- Amie Wilkinson
- Robert Zimmer

Associate Professors

- Simion Filip
- Roger Lee
- Maryanthe Malliaris

Assistant Professors

- Sebastian Hurtado-Salazar
- Dana Mendelson
- Nikita Rozenblyum
- Daniil Rudenko

Instructors

- Lucas Benigni
- Guher Camliyurt
- Elliot Cartee
- Mark Cerenzia
- Andrea Dotto

- Mikolaj Fraczyk
- Pedro Gasper
- Kornelia Hera
- Trevor Hyde
- Kasia Jankiewicz
- Justin Lanier
- Brian Lawrence
- Akhil Mathew
- Henrik Matthieson
- Cornelia Mihaila
- Lucia Mocz
- Benedict Morrissey
- Davi Obata
- Lue Pan
- Wenyu Pan
- Beniada Shabani
- Danny Shi
- Daniel Stern
- Ao Sun
- Caroline Terry
- Philip Tosteson
- Xuan Wu
- Zihui Zhao
- Jinping Zhuge

Senior Lecturers

- John Boller
- Lucas Culler
- Jitka Stehnova

Lecturer

Meghan Anderson

Assistant Instructional Professors

- Kale Davies
- Daniel Hess
- Nicole Pitcher
- Selma Yildirim
- Seyed Zoalroshd

Emeritus Faculty

- Jonathan Alperin
- Spencer Bloch
- George Glauberman
- Robert Kottwitz
- Steven Lalley
- Norman Lebovitz
- Matam P. Murthy
- Niels Nygaard
- Melvin G. Rothenberg
- L. Ridgway Scott, Computer Science and Mathematics
- Robert I. Soare, Computer Science and Mathematics

The Department of Mathematics (http://www.math.uchicago.edu/) provides a comprehensive education in mathematics which takes place in a stimulating environment of intensive research activity. The graduate program includes both pure and applied areas of mathematics. Ten to fifteen graduate courses are offered every quarter. Several seminars take place every afternoon. There is an active visitors program with mathematicians from around the world coming for periods from

a few days to a few months. There are four major lecture series each year: the Adrian Albert Lectures in Algebra, the Antoni Zygmund and Alberto Calderón Lectures in Analysis, the Unni Namboodiri Lectures in Topology, and the Charles Amick Lectures in Applied Mathematics. The activities of the department take place in Eckhart and Ryerson Halls. The Departments of Mathematics, Computer Science and Statistics have several joint appointments, and they coordinate their activities

# Graduate Degrees in Mathematics

The graduate program of the Department of Mathematics is oriented towards students who intend to earn a Ph.D. in mathematics on the basis of work done in mathematics. The Department also offers the degree of Master of Science in mathematics, which is acquired as the student proceeds on to the Ph.D. degree. Students are not admitted with the Master of Science degree as their final objective. In addition, the department offers a separate Master of Science in Financial Mathematics degree program which is taught in the evenings. See the program listing for Financial Mathematics for more information.

The divisional requirements for these degrees can be found in the section on the Physical Sciences Division in these Announcements. Otherwise, the requirements are as follows.

#### The Degree of Master of Science

The candidate must pass, the nine basic first year graduate courses in the areas of

Algebra I	100
Algebra II	100
Algebra III	100
Analysis I	100
Analysis II	100
Analysis III	100
Topology and Geometry I	100
Topology and Geometry II	100
Topology and Geometry III	100
	Algebra I Algebra II Algebra II Analysis I Analysis II Analysis III Topology and Geometry I Topology and Geometry II Topology and Geometry III

At the beginning of each quarter a placement exam is offered for each of the courses above. Students who pass the exam can place out of the course, but must take another course in a related area.

# The Degree of Doctor of Philosophy

For admission to candidacy for the Doctor of Philosophy, an applicant must demonstrate the ability to meet both the divisional requirements and the departmental requirements for admission.

The applicant must satisfy the above mentioned requirements for the degree of Master of Science in mathematics.

The applicant must satisfactorily complete a topic exam. This exam covers material that is chosen by the student in consultation with members of the department and is studied independently. The topic presentation is normally made by the end of the student's second year of graduate study, and includes both a written proposal and an oral presentation and exam.

The applicant must also successfully complete the department's program of preparatory training in the effective teaching of mathematics in the English language at a level commensurate with the level of instruction at the University of Chicago.

After successful completion of the topic presentations, the student is expected to begin research towards the dissertation under the guidance of a member of the department. The remaining requirements are to:

- 1 Complete a dissertation containing original, substantial, and publishable mathematical results
- 2. Present the contents of the dissertation in an open lecture
- 3. Pass an oral examination based both on the dissertation and the field of mathematics in which it lies

A joint Ph.D. in Mathematics and Computer Science is also offered. To be admitted to the joint program, students must be admitted by both departments as follows. Each student in this program will have a primary program (either Math or CS). Students apply to their primary program. Once admitted, they can apply to the secondary program for admission to the joint program. This secondary application can occur either before they enter the program or any time during their first four years in their primary program. Simultaneous applications to both programs will also be considered (one of the programs being designated as primary).

Students enrolling in this program need to satisfy the course requirements of both departments. They have to satisfy the course requirements of their primary program on the schedule of that program, and satisfy the course requirements of their

secondary program by the end of their fifth year. They also need to satisfy the exanimation requirements of their primary program, and are expected to write a dissertation in an area relevant to both fields.

#### Mathematics Courses

# MATH 30200-30300-30400. Computability Theory-1; Computability Theory-2; Computability Theory-3. The courses in this sequence are offered in alternate years.

#### MATH 30200. Computability Theory I. 100 Units.

We investigate the computability and relative computability of functions and sets. Topics include mathematical models for computations, basic results such as the recursion theorem, computably enumerable sets, and priority methods. Instructor(s): D. Hirschfeldt Terms Offered: Spring

Prerequisite(s): Consent of department counselor. MATH 25500 or consent of instructor.

Equivalent Course(s): CMSC 38000

#### MATH 30300. Computability Theory II. 100 Units.

CMSC 38100 treats classification of sets by the degree of information they encode, algebraic structure and degrees of recursively enumerable sets, advanced priority methods, and generalized recursion theory.

Instructor(s): D. Hirschfeldt Terms Offered: Spring

Prerequisite(s): Consent of department counselor. MATH 25500 or consent of instructor.

Equivalent Course(s): CMSC 38100

#### MATH 30400. Computability Theory-3. 100 Units.

#### MATH 30708. Simple Theories. 100 Units.

Simple theories (so called), introduced almost forty years ago, provide a model theoretic framework for studying certain familes of 'random' objects, such as the theories of random graphs and hypergraphs. Very recent work has shown the class to contain a much greater range of complexity than previously thought. This course will cover the fundamental theorems of simple theories along with some of the new developments.

Instructor(s): Maryanthe Malliaris Terms Offered: Autumn

# MATH 30813. Some Logic and Geometry for Mathematicians. 100 Units.

This quarter course will cover three major applications of logic to other branches of mathematics. The first is Tarski's theorem about quantifier elimination and decidability of the first order theory of the reals. This is a cornerstone of real algebraic geometry with major implications in analysis and geometry. The second is the existence of groups with unsolvable word problem and Higman's characterization of finitely generated subgroups of finitely generated groups. This implies that some geometric problems, such as the homeomorphism problem for manifolds, or deciding whether a simplicial complex is a manifold are undecidable (as we hope to explain). And, finally, we will explain why there is no algorithm to decide whether Diophantine equations with integer coefficients have integral solutions, along with some interesting definability questions in this context.

Instructor(s): Shmuel Weinberger, Maryanthe Malliaris Terms Offered: Spring

#### MATH 30900-31000. Model Theory I-II.

MATH 30900 covers completeness and compactness; elimination of quantifiers; omission of types; elementary chains and homogeneous models; two cardinal theorems by Vaught, Chang, and Keisler; categories and functors; inverse systems of compact Hausdorf spaces; and applications of model theory to algebra. In MATH 31000, we study saturated models; categoricity in power; the Cantor-Bendixson and Morley derivatives; the Morley theorem and the Baldwin-Lachlan theorem on categoricity; rank in model theory; uniqueness of prime models and existence of saturated models; indiscernibles; ultraproducts; and differential fields of characteristic zero.

#### MATH 30900. Model Theory I. 100 Units.

First graduate course in model theory, covering the basics of the modern field, through stability. Prerequisite(s): MATH 25500 or 25800 Note(s): This course is offered in alternate years.

#### MATH 31000. Model Theory II. 100 Units.

Second graduate course in model theory, focusing on the fundamentals of classification theory. Terms Offered: Spring Prerequisite(s): MATH 30900 Note(s): This course is offered in alternate years.

#### MATH 31200-31300-31400. Analysis I-II-III. Analysis I-II-III

# MATH 31200. Analysis I. 100 Units.

Topics include: Lebesgue integration, Lp spaces and Banach spaces, differentiation theory, Hilbert spaces and Fourier series, Fourier transform, probability spaces and random variables, strong law of large numbers, central limit theorem, conditional expectation and martingales, Brownian motion.

Terms Offered: Autumn

Prerequisite(s): MATH 26200, 27000, 27200, and 27400; and consent of director or co-director of undergraduate studies

#### MATH 31300. Analysis II. 100 Units.

Topics include: Hilbert spaces, projections, bounded and compact operators, spectral theorem for compact selfadjoint operators, unbounded selfadjoint operators, Cayley transform, Banach spaces, Schauder bases, Hahn-Banach theorem and its geometric meaning, uniform boundedness principle, open mapping theorem, Frechet spaces, applications to elliptic partial differential equations, Fredholm alternative.

Terms Offered: Winter Prerequisite(s): MATH 31200

#### MATH 31400. Analysis III. 100 Units.

Topics include: Basic complex analysis, Cauchy theorem in the homological formulation, residues, meromorphic functions, Mittag-Leffler theorem, Gamma and Zeta functions, analytic continuation, mondromy theorem, the concept of a Riemann surface, meromorphic differentials, divisors, Riemann-Roch theorem, compact Riemann surfaces, uniformization theorem, Green functions, hyperbolic surfaces, covering spaces, quotients. Terms Offered: Spring

Prerequisite(s): MATH 31300

#### MATH 31700-31800-31900. Topology and Geometry I-II-III.

Topology and Geometry I-II-III

#### MATH 31700. Topology and Geometry I. 100 Units.

Topics include: Fundamental group, covering space theory and Van Kampen's theorem (with a discussion of free and amalgamated products of groups), homology theory (singular, simplicial, cellular), cohomology theory, Mayer-Vietoris, cup products, Poincare Duality, Lefschetz fixed-point theorem, some homological algebra (including the Kunneth and universal coefficient theorems), higher homotopy groups, Whitehead's theorem, exact sequence of a fibration, obstruction theory, Hurewicz isomorphism theorem.

Terms Offered: Autumn

Prerequisite(s): MATH 26200, 27000, 27200, and 27400; and consent of director or co-director of undergraduate studies

#### MATH 31800. Topology and Geometry II. 100 Units.

Topics include: Definition of manifolds, tangent and cotangent bundles, vector bundles. Inverse and implicit function theorems. Sard's theorem and the Whitney embedding theorem. Degree of maps. Vector fields and flows, transversality, and intersection theory. Frobenius' theorem, differential forms and the associated formalism of pullback, wedge product, integration, etc. Cohomology via differential forms, and the de Rham theorem. Further topics may include: compact Lie groups and their representations, Morse theory, cobordism, and differentiable structures on the sphere. Terms Offered: Winter

Prerequisite(s): MATH 31700

# MATH 31900. Topology and Geometry III. 100 Units.

Topics include: Riemannian metrics, connections and curvature on vector bundles, the Levi-Civita connection, and the multiple interpretations of curvature. Geodesics and the associated variational formalism (formulas for the 1st and 2nd variation of length), the exponential map, completeness, and the influence of curvature on the topological structure of a manifold (positive versus negative curvature). Lie groups. The Chern-Weil description of characteristic classes, the Gauss-Bonnet theorem, and possibly the Hodge Theorem.

Terms Offered: Winter Prerequisite(s): MATH 31800

# MATH 32500-32600-32700. Algebra I-II-III.

Algebra I-II-III

# MATH 32500. Algebra I. 100 Units.

Topics include: Representation theory of finite groups, including symmetric groups and finite groups of Lie type; group rings; Schur functors; induced representations and Frobenius reciprocity; representation theory of Lie groups and Lie algebras, highest weight theory, Schur-Weyl duality; applications of representation theory in various parts of mathematics.

# Terms Offered: Autumn

Prerequisite(s): MATH 25700-25800-25900, and consent of director or co-director of undergraduate studies

# MATH 32600. Algebra II. 100 Units.

This course will explain the dictionary between commutative algebra and algebraic geometry. Topics will include the following. Commutative ring theory; Noetherian property; Hilbert Basis Theorem; localization and local rings; etc. Algebraic geometry: affine and projective varieties, ring of regular functions, local rings at points, function fields, dimension theory, curves, higher-dimensional varieties. Terms Offered: Winter

Prerequisite(s): MATH 32500

#### MATH 32700. Algebra III. 100 Units.

According to the inclinations of the instructor, this course may cover: algebraic number theory; homological algebra; further topics in algebraic geometry and/or representation theory.

Terms Offered: Spring Prerequisite(s): MATH 32600

# MATH 34100. Geometric Literacy-1. 100 Units.

This ongoing course might be subtitled: 'what every good geometer should know'. The topics will intersperse more elementary background with topics close to current research, and should be understandable to second year students. The individual modules (2-5 weeks each) might be logically interrelated, but we will try to maintain a 'modular structure' so that people who are willing to assume certain results as 'black boxes' will be able to follow more advanced modules before formally learning all the prerequisites. This years topics might include: basics of symplectic geometry, harmonic maps in geometry, pseudo-Anosov homeomorphisms and Thurston's compactification of Teichmuller space, algebraic geometry for non-algebraic geometers. Prereq: First year graduate sequence.

Instructor(s): Benson Farb Terms Offered: Autumn

Prerequisite(s): First year graduate sequence.

# MATH 34200. Geometric Literacy-2. 100 Units.

This ongoing course might be subtitled: 'what every good geometer should know'. The topics will intersperse more elementary background with topics close to current research, and should be understandable to second year students. The individual modules (2-5 weeks each) might be logically interrelated, but we will try to maintain a 'modular structure' so that people who are willing to assume certain results as 'black boxes' will be able to follow more advanced modules before formally learning all the prerequisites. This years topics might include: basics of symplectic geometry, harmonic maps in geometry, pseudo-Anosov homeomorphisms and Thurston's compactification of Teichmuller space, algebraic geometery for non-algebraic geometers. Prereq: First year graduate sequence.

#### MATH 34300. Geometric Literacy - 3. 100 Units.

This ongoing course might be subtitled: 'what every good geometer should know'. The topics will intersperse more elementary background with topics close to current research, and should be understandable to second year students. The individual modules (2-5 weeks each) might be logically interrelated, but we will try to maintain a 'modular structure' so that people who are willing to assume certain results as 'black boxes' will be able to follow more advanced modules before formally learning all the prerequisites. This years topics might include: basics of symplectic geometry, harmonic maps in geometry, pseudo-Anosov homeomorphisms and Thurston's compactification of Teichmuller space, algebraic geometry for non-algebraic geometers. Prereq: First year graduate sequence.

Instructor(s): Benson Farb Terms Offered: Spring

Prerequisite(s): First year graduate sequence.

# MATH 34500. Topics in Geometry and Topology. 100 Units.

This course will cover various topics ranging from algebraic and differential geometry to algebraic and geometric topology, often with connections to representation theory and number theory. Recent topics have included Hodge theory, Mostow Rigidity, Topology and geometry of K3 surfaces (joint with Eduard Looijenga), 'What all the 3-manifolds are', 4-manifold theory; from Seiberg-Witten to the classification of albebraic surfaces (joint with Danny Calegari), and the cohomology of arithmetic groups (joint with Matt Emerton).

Instructor(s): Benson Farb Terms Offered: Winter

Prerequisite(s): The first year math graduate courses or permission of instructor.

#### MATH 34600. Topics in Geometry and Topology-2. 100 Units.

This course will cover various topics ranging from algebraic and differential geometry to algebraic and geometric topology, often with connections to representation theory and number theory. Recent topics have included Hodge theory, Mostow Rigidity, Topology and geometry of K3 surfaces (joint with Eduard Looijenga), 'What all the 3-manifolds are', 4-manifold theory: from Seiberg-Witten to the classification of albebraic surfaces (joint with Danny Calegari), and the cohomology of arithmetic groups (joint with Matt Emerton).

Instructor(s): Benson Farb Terms Offered: Spring

Prerequisite(s): The first year math graduate courses or permission of instructor.

#### MATH 36000. Proseminar: Topology. 100 Units.

This informal proseminar is devoted to topics in algebraic topology and neighboring fields. Talks are given by graduate students, postdocs, and senior faculty. They range from basic background through current research. Instructor(s): Staff

#### MATH 36100. Topology Proseminar. 100 Units.

This informal 'proseminar' is devoted to topics in algebraic topology and neighboring fields. Talks are given by graduate students, postdocs, and senior faculty. They range from basic background through current research. Instructor(s): J. Peter May Terms Offered: Winter

#### MATH 36200. Topology Proseminar. 100 Units.

The Spring proseminar is a more formal version of the Fall and Winter topology proseminar. It will be taught primarily or completely by May, on topics of interest to the participants. Instructor(s): J. Peter May Terms Offered: Spring

# MATH 36704. Dynamics and Applications. 100 Units.

The course will provide an introduction to basic results and techniques in dynamical systems and then discuss selected applications.

Instructor(s): Simion Filip Terms Offered: Winter

#### MATH 36888. Pseudodifferential Operators with Applications. 100 Units.

In this course I will introduce classical pseudodifferential operators and their calculus and give some applications, including to variable coefficient Schrodinger equations.

Instructor(s): Carlos Kenig Terms Offered: Autumn

Prerequisite(s): The first year graduate sequence in analysis.

#### MATH 36918. Min-max Methods in Minimal Surfaces. 100 Units.

Min-max methods in minimal surfaces have produced a series of spectacular results lately and settle old questions. I will develop the Algren-Pitts min-max theory from the beginning and explain how that can be used to prove existence of minimal surfaces.

Instructor(s): Andre Neves Terms Offered: Spring

# MATH 37104. Parabolic Equations with Irregular Data and Related Issues. 100 Units.

We present a general theory of existence and uniqueness of linear parabolic equations with Lebesgue/Sobolev regular coefficients and initial conditions. Applications to the theory of stochastic differential equations are also discussed. The course is based on the recent book C. Le Bris/ P.L. Lions, Parabolic Equations with irregular data and related issues. Application to Stochastic Differential Equations, De Gruyter Series in Applied and Numerical Mathematics, Vol. 4, 2019, 165 pages, ISBN 978-3-11-063313-9. For more information on the course: claude.le-bris@enpc.fr Instructor(s): Claude Le Bris Terms Offered: Winter

# MATH 37105. Topics in Geometric Measure Theory I. 100 Units.

A measure is a way to assign a size to collections of points. Lebesgue measure is the most important example but, depending upon the application, the 'size' of a set may be measured in many different, very interesting ways. The interplay between measure and geometry can be extremely subtle and has given rise to powerful ideas that are used in energy minimisation problems, the theory of partial differential equations and the study of fractal geometry. This is an advanced course on geometric measure theory and its applications.

Instructor(s): Marianna Csornyei Terms Offered: Autumn

#### MATH 37111. Quiver Varieties. 100 Units.

Study of quiver varieties.

Instructor(s): Victor Ginzburg Terms Offered: Spring

#### MATH 37219. Crystalline Differential Operators. 100 Units.

Introduction to crystalline differential operators.

Instructor(s): Victor Ginzburg Terms Offered: Winter

#### MATH 38595. Topics in Complex Dynamics. 100 Units.

An introduction to the theory of complex dynamics in 1 dimension, especially the theory of rational maps and rational correspondences. Foundations of the theory, quasiconformal analysis, no wandering domains, Mandelbrot set and variations. Instructor(s): Danny Calegari Terms Offered: Spring

### MATH 38599. Introduction to Floer Theories. 100 Units.

An introduction to the use of gauge theoretic methods in 3-manifold topology, including Seiberg-Witten and Heegaard Floer Homology, connections to taut foliations and sutured manifolds. Thurston norm, contact structures, etc. Instructor(s): Danny Calegari Terms Offered: Winter

#### MATH 42002. P-adic Hodge Theory. 100 Units.

Basic things in p-adic Hodge theory are explained. Instructor(s): Kazuya Kato Terms Offered: Winter Prerequisite(s): Algebra 1, 2, 3

#### MATH 47000. Geometric Langlands Seminar. 100 Units.

This seminar is devoted not only to the Geometric Langlands theory but also to related subjects (including topics in algebraic geometry, algebra and representation theory). We will try to learn some modern homological algebra (Kontsevich's Ainfinity categories) and some 'forgotten' parts of D- module theory (e.g. the microlocal approach). Instructor(s): Alexander Beilinson, Vladimir Drinfeld Terms Offered: Autumn

### MATH 47100. Geometric Langlands Seminar. 100 Units.

The seminar is devoted to the Geometric Langlands theory and related subjects, which covers topics in algebraic geometry, algebra, and representation theory.

Instructor(s): Alexander Beilinson, Vladimir Drinfeld Terms Offered: Winter

#### MATH 47200. Geometric Langlands Seminar. 100 Units.

The seminar is devoted to the Geometric Langlands theory and related subjects, which covers topics in algebraic geometry, algebra, and representation theory.

Instructor(s): Alexander Beilinson, Vladimir Drinfeld Terms Offered: Spring

# MATH 59900. Reading/Research: Mathematics. 300.00 Units.

Readings and Research for working on their PhD

MATH 70000. Advanced Study: Mathematics. 300.00 Units. Advanced Study: Mathematics



# Department of Physics

Department Website: http://physics.uchicago.edu Chair

Young-Kee Kim

Professors

- David C. Awschalom, PME
- Edward C. Blucher
- Marcela Carena
- John Eric Carlstrom, Astronomy & Astrophysics
- Cheng Chin
- Juan Collar
- Clay Cordova
- Henry J. Frisch
- Margaret Gardel
- Philippe M. Guyot Sionnest, Chemistry
- Jeffrey A. Harvey
- Daniel Holz
- William Irvine
- Heinrich Martin Jaeger
- Woowon Kang
- Young Kee Kim
- David Kutasov
- Kathryn Levin
- Peter Littlewood
- Jeffrey J. McMahon
- Emil J. Martinec
- Stephan Meyer, Astronomy & Astrophysics
- Sergei Nagaitsev
- Sidney R. Nagel
- Mark J. Oreglia
- Paolo Privitera, Astronomy & Astrophysics
- Shinsei Ryu
- Robert Rosner, Astronomy & Astrophysics
- Guy Savard
- Savdeep Sethi
- Melvyn J. Shochet
- Dam T. Son
- Vincenzo Vitelli
- Carlos E.M. Wagner
- Yau Wai Wah
- Scott Wakely
- Robert M. Wald
- LianTao Wang
- Paul B. Wiegmann
- Linda Young

Associate Professors

- Luca Grandi
- Michael Levin
- David Miller
- Michael Rust, Molecular Genetics and Cell Biology
- Wendy Zhang

Assistant Professors

- Arvind Murugan
- Stephanie Palmer, Organismal Biology and Anatomy
- David Schmitz
- David Schuster
- Jonathan Simon
- Abigail Vieregg

Emeritus Faculty

- Robert P. Geroch
- Roger H. Hildebrand
- Gene F. Mazenko
- Frank S. Merritt
- Dietrich Müller
- Eugene Parker
- James E. Pilcher
- Jonathan L. Rosner
- John P. Schiffer
- Thomas A. Witten

The Department of Physics (http://physics.uchicago.edu/) offers advanced degree opportunities in many areas of experimental and theoretical physics, supervised by a distinguished group of research faculty. Applications are accepted from students of diverse backgrounds and institutions: graduates of research universities or four year colleges, from the U.S. and worldwide. Most applicants, but not all, have undergraduate degrees in physics; many have had significant research experience. Seeking to identify the most qualified students who show promise of excellence in research and teaching, the admissions process is highly selective and very competitive.

#### Doctor of Philosophy

During the first year of the doctoral program, a student takes introductory graduate physics courses and usually serves as a teaching assistant assigned to one of the introductory or intermediate undergraduate physics courses. Students are encouraged to explore research opportunities during their first year. Students are strongly encouraged to take the graduate diagnostic examination prior to their first quarter in the program. The results of this examination will determine which of the introductory graduate courses the student must take to achieve candidacy. After achieving candidacy and identifying a research sponsor, the student begins dissertation research while completing course requirements. Within a year after research begins, a PhD committee is formed with the sponsor as chairman. The student continues research, from time to time consulting with the members of the committee, until completion of the dissertation. The average length of time for completion of the PhD program in physics is about six years.

In addition to fulfilling University and divisional requirements, a candidate for the degree of Doctor of Philosophy in physics must:

- Achieve Candidacy.
- Fulfill the experimental physics requirement by completing PHYS 33400 Adv Experimental Physics or PHYS 33500 Adv Experimental Physics Project.
- Pass four post candidacy advanced graduate courses devoted to the broad physics research areas of (A) Condensed Matter Physics, (B) Particle Physics, (C) Large Scale Physics (i.e. Astrophysics and/or Cosmology related), and (D) Intermediate Electives. The four courses selected must include at least one from each of the categories (A), (B), and (C).
- Pass two other advanced (40000 level) courses either in physics or in a field related to the student's Ph.D. research. The latter requires department approval.
- Within the first year after beginning research, convene a first meeting of the Ph.D. committee to review plans for the proposed thesis research and for fulfilling the remaining Ph.D. requirements.
- One to two quarters prior to the defense of the dissertation, hold a pre-oral meeting at which the student and the Ph.D. committee discuss the research project.
- Defend the dissertation before the Ph.D. committee.
- Submit for publication to a refereed scientific journal the thesis which has been approved by the Ph.D. committee
  or a paper based on the thesis. A letter from the editor acknowledging receipt of the thesis must be provided to the
  department office.

Consult a department adviser for more details.

#### Master of Science

The graduate program of the Department of Physics is oriented toward students who intend to earn a Ph.D. degree in physics. Therefore, the department does not offer admission to students whose goal is the Master of Science degree. However, the department does offer a master's degree to students who are already in the physics Ph.D. program or other approved graduate programs in the University. Normally it takes one and a half years for a student to complete the master's degree is not required for continued study toward the doctorate.

In addition to fulfilling University and Divisional requirements, a candidate for the degree of Master of Science in physics must demonstrate a satisfactory level of understanding of the fundamental principles of physics by passing nine approved courses with a minimum grade point average of 2.5. Six of the nine courses must be:

PHYS 31600	Adv Classical Mechanics	100
PHYS 33000	Math Methods Of Physics-1	100
PHYS 34100	Graduate Quantum Mechanics-1	100
PHYS 32200	Advanced Electrodynamics I	100
PHYS 35200	Statistical Mechanics	100
PHYS 33400	Adv Experimental Physics	100
PHYS 33500	Adv Experimental Physics Project	100

Testing out of certain courses (PHYS 31600, 32200, 32300, 34100, 34200, and 35200) on the Graduate Diagnostic Exam can be applied toward the Master's degree in place of taking the course. The 2.5 GPA minimum applies only to courses taken in addition to those credited by performance on the Graduate Diagnostic Exam.

The Department may approve substitutions to this list where warranted.

#### Teaching Opportunities

Part of the training of graduate students is dedicated to obtaining experience and facility in teaching. Most first year students are supported by teaching assistantships, which provide the opportunity for them to engage in a variety of teaching related activities. These may include supervising undergraduate laboratory sections, conducting discussion and problem sessions, holding office hours, and grading written work for specific courses. Fellowship holders are invited to participate in these activities at reduced levels of commitment to gain experience in the teaching of physics. During the Autumn quarter first year graduate students attend the weekly workshop, Teaching and Learning of Physics, which is an important element in their training as teachers of physics.

#### **Teaching Facilities**

All formal class work takes place in the modern lecture halls and classrooms and instructional laboratories of the Kersten Physics Teaching Center. This building also houses special equipment and support facilities for student experimental projects, departmental administrative offices, and meeting rooms. The center is situated on the science quadrangle near the John Crear Science Library, which holds over 1,000,000 volumes and provides modern literature search and data retrieval systems.

# **Research Facilities**

Most of the experimental and theoretical research of Physics faculty and graduate students is carried out within the Enrico Fermi Institute (http://efi.uchicago.edu/), the James Franck Institute (http://jfi.uchicago.edu/) and the Institute for Biophysical Dynamics (http://ibl.uchicago.edu/). These research institutes provide close interdisciplinary contact, crossing the traditional boundaries between departments. This broad scientific endeavor is reflected in students' activities and contributes to their outlook toward research.

In the Enrico Fermi Institute, members of the Department of Physics carry out theoretical research in particle theory, string theory, field theory, general relativity, and theoretical astrophysics and cosmology. There are active experimental groups in high energy physics, nuclear physics, astrophysics and space physics, infrared and optical astronomy, and microwave background observations. Some of this research is conducted at the Fermi National Accelerator Laboratory, at Argonne National Laboratory (both of these are near Chicago), and at the European Organization for Nuclear Research (CERN) in Geneva, Switzerland.

Physics faculty in the James Franck Institute study chemical, solid state, condensed matter, and statistical physics. Fields of interest include chaos, chemical kinetics, critical phenomena, high Tc superconductivity, nonlinear dynamics, low temperature, disordered and amorphous systems, the dynamics of glasses, fluid dynamics, surface and interface phenomena, nonlinear and nanoscale optics, unstable and metastable systems, laser cooling and trapping, atomic physics, and polymer physics. Much of the research utilizes specialized facilities operated by the institute, including a low temperature laboratory, a materials preparation laboratory, x-ray diffraction and analytical chemistry laboratories, laser equipment, a scanning tunneling microscope, and extensive shop facilities. Some members of the faculty are involved in research at Argonne National Laboratory.

The Institute for Biophysical Dynamics includes members of both the Physical Sciences and Biological Sciences Divisions, and focuses on the physical basis for molecular and cellular processes. This interface between the physical and biological sciences is an exciting area that is developing rapidly, with a bi-directional impact. Research topics include the creation of physical materials by biological self assembly, the molecular basis of macromolecular interactions and cellular signaling, the derivation of sequence structure function relationships by computational means, and structure function relationships in membranes.

In the areas of chemical and atomic physics, research toward the doctorate may be done in either the physics or the chemistry department. Facilities are available for research in crystal chemistry; molecular physics; molecular spectra from infrared to far ultraviolet, Bose Einstein condensation, and Raman spectra, both experimental and theoretical; surface physics; statistical mechanics; radio chemistry; and quantum electronics.

Interdisciplinary research leading to a Ph.D. degree in physics may be carried out under the guidance of faculty committees including members of other departments in the Division of the Physical Sciences, such as Astronomy & Astrophysics, Chemistry, Computer Science, Geophysical Sciences or Mathematics, or related departments in the Division of the Biological Sciences.

# Admission and Student Aid

Most students entering the graduate program of the Department of Physics of the University of Chicago hold a bachelor's or master's degree in physics from an accredited college or university.

December 15 is the deadline for applications for admission in the following autumn quarter. The Graduate Record Examination (GRE) given by the Educational Testing Service is required of all applicants. Applicants should submit recent scores on the verbal, quantitative, and analytic writing tests and on the advanced subject test in physics. Arrangements should be made to take the examination no later than September in order that the results be available in time for the department's consideration. Applicants from non-English speaking countries must provide the scores achieved on the TOEFL or the IELTS.

All full time physics graduate students in good standing receive financial aid. Most graduate students serve as teaching assistants in their first year.

The department has instituted a small bridge-to-Ph.D. program which does not require the Graduate Record Examination. The application deadline for this program varies but is expected to be mid to late spring.

For information including faulty research interests, application instructions, and other important program details please visit our department website http://physics.uchicago.edu/. You can also reach out to physics@uchicago.edu with any questions or concerns regarding the admissions process.

# Physics Courses

#### PHYS 30101. Analytical Methods of Physics I. 100 Units.

This course focuses on analytical techniques used in physics. It is designed to have flexible topical coverage so that the course may be geared to the registered students. Enrollment is by instructor approval only. Instructor(s): D. Reed Terms Offered: Autumn Prerequisite(s): Permission of the instructor.

# PHYS 30102. Analytical Methods of Physics II. 100 Units.

Course focuses on analytical techniques used in Physics. It is designed to have flexible topical coverage so that the course may be geared to registered students. Enrollment is by instructor approval only.

#### PHYS 30103. Analytical Methods of Physics III. 100 Units.

#### PHYS 31600. Adv Classical Mechanics. 100 Units.

This course begins with variational formulation of classical mechanics of point particles, including discussion of the principle of least action, Poisson brackets, and Hamilton-Jacobi theory. These concepts are generalized to continuous systems with infinite number of degrees of freedom, including a discussion of the transition to quantum mechanics. Terms Offered: Autumn

Prerequisite(s): PHYS 18500

#### PHYS 31700. Symplectic Methods of Classical Dynamics. 100 Units.

This course covers advanced techniques in classical dynamics including Lagrangian mechanics on manifolds, differential forms, symplectic structures on manifolds, the Lie algebra of vector fields and Hamiltonian functions, and symplectic geometry.

Terms Offered: Spring

### PHYS 32200-32300. Advanced Electrodynamics I-II.

This two-quarter sequence covers electromagnetic properties of continuous media, gauge transformations, electromagnetic waves, radiation, relativistic electrodynamics, Lorentz theory of electrons, and theoretical optics. There is considerable emphasis on the mathematical methods behind the development of the physics of these problems.

# PHYS 32200. Advanced Electrodynamics I. 100 Units.

Terms Offered: Winter Prerequisite(s): PHYS 22700 and 23500

# PHYS 32300. Advanced Electrodynamics II. 100 Units.

Terms Offered: Spring Prerequisite(s): PHYS 32200

#### PHYS 33000. Math Methods Of Physics-1. 100 Units.

Topics include complex analysis, linear algebra, differential equations, boundary value problems, and special functions. Terms Offered: Autumn

Prerequisite(s): PHYS 22700

# PHYS 33400. Adv Experimental Physics. 100 Units.

For course description contact Physics. Terms Offered: Spring

### PHYS 33500. Adv Experimental Physics Project. 100 Units.

For course description contact Physics.

#### PHYS 34100-34200. Advanced Quantum Mechanics I-II.

This two-quarter sequence covers wave functions and their physical content, one-dimensional systems, WKB method, operators and matrix mechanics, angular momentum and spin, two- and three-dimensional systems, the Pauli principle, perturbation theory, Born approximation, and scattering theory.

# PHYS 34100. Graduate Quantum Mechanics-1. 100 Units.

This course is a two-quarter sequence that covers wave functions and their physical content, one dimensional systems, WKB method, operators and matrix mechanics, angular momentum and spin, two-and-three dimensional systems, with Pauli principle, perturbation theory, Born approximation, and scattering theory. Terms Offered: Autumn

Prerequisite(s): PHYS 23500

# PHYS 34200. Graduate Quantum Mechanics-2. 100 Units.

This two-quarter sequence covers wave functions and their physical content, one-dimensional systems, WKB method, operators and matrix mechanics, angular momentum and spin, two- and three-dimensional systems, the Pauli principle, perturbation theory, Born approximation, and scattering theory Terms Offered: Winter Prerequisite(s): PHYS 34100

#### PHYS 35200. Statistical Mechanics. 100 Units.

This course covers principles of statistical mechanics and thermodynamics, as well as their applications to problems in physics and chemistry.

Terms Offered: Spring Prerequisite(s): PHYS 19700 and 23500

# PHYS 35300. Advanced Statistical Mechanics. 100 Units.

This course will cover advanced topics in collective behavior, mean field theory, fluctuations, scaling hypothesis. Perturbative renormalization group, series expansions, low-dimensional systems and topological defects, random systems and conformal symmetry.

# PHYS 36100. Solid State Physics. 100 Units.

Topics include Properties of Insulators, Electronic Properties of Solids, Thermal Properties, Optical Properties of Solids, and Transport in Metals (conductivity, Hall effect, etc.) Terms Offered: Autumn

Prerequisite(s): PHYS 23600, 34200, 35200

#### PHYS 36300. Particle Physics. 100 Units.

# PHYS 36400. General Relativity. 100 Units.

This is advanced-level course on general relativity treats special relativity, manifolds, curvature, gravitation, the Schwarzschild solution and black holes.

Terms Offered: Winter 2014

### PHYS 36600. Adv Condensed Matter Physics. 100 Units.

Phasetransitions, Magnetism, Superconductivity, Disorder, Quantum Hall Effect, Superfluidity, Physics of Low-dimensional systems, Fermiliquid theory, and Quasi-crystals.

Terms Offered: Winter

# PHYS 36700. Soft Condensed Matter Phys. 100 Units.

This course will cover topics including granular and colloidal matter, jamming, fluids, instabilities and topological shapes and transitions between them.

#### PHYS 37100. Introduction To Cosmology. 100 Units.

# PHYS 37200. Space Physics and Astrophysics. 100 Units.

This course treats various topics in modern astrophysics. Terms Offered: Autumn

# PHYS 38500. Advanced Mathematical Methods. 100 Units.

Course description unavailable. Terms Offered: Winter

#### PHYS 38600. Advanced Methods of Data Analysis. 100 Units.

This course covers advanced methods of data analysis including probability distributions, propagation of errors, Bayesian approaches, maximum likelihood estimators, confidence intervals, and more. Terms Offered: Spring

# PHYS 39000. PREP for Candidacy. 300.00 Units.

Registration for students who have not yet reached Ph.D. candidacy.

#### PHYS 39800. Research: Physics. 300.00 Units.

Registration for students performing individually arranged research projects not related to a doctoral thesis.

#### PHYS 39900. Prep For Candidacy Examination. 300.00 Units.

#### PHYS 40600. Nuclear Physics. 100 Units.

No description Available

# PHYS 40700. X-ray Lasers and Applications. 100 Units.

This course will introduce the basic concepts of accelerator-based x-ray light sources (XFELs and synchrotrons) and survey contemporary x-ray applications such as nonlinear multiphoton absorption, induced transparency/saturable absorption, and atomic x-ray lasing in systems ranging from atoms to clusters to solids.

#### PHYS 41000. Accelerator Physics. 100 Units.

The course begins with the historical development of accelerators and their applications. Following a brief review of special relativity, the bulk of the course will focus on acceleration methods and phase stability, basic concepts of magnet design, and transverse linear particle motion. Basic accelerator components such as bending and focusing magnets, electrostatic deflectors, beam diagnostics and radio frequency accelerating structures will be described. The basic concepts of magnet design, will be introduced, along with a discussion of particle beam optics. An introduction to resonances, linear coupling, space charge, magnet errors, and synchrotron radiation will also be given. Topics in longitudinal and transverse beam dynamics will be explored, including synchrotron and betatron particle motion. Lastly, a number of additional topics will be reviewed, including synchrotron radiation sources, free electron lasers, high energy colliders, and accelerators for radiation therapy. Several laboratory sessions will provide hands-on experience with hardware and measurement instrumentation. Terms Offered: Autumn

#### PHYS 41100. Many Body Theory. 100 Units.

The course will follow roughly the new textbook by Piers Coleman "Introduction to Many-Body Physics". The topics are: Second quantization, Path integral, Quantum fields, Green functions, Feynman diagrams, Landau Fermi Liquid theory, Phase transitions, BCS theory, more advanced topics.

### PHYS 41200. Topological Quantum Matter. 100 Units.

# PHYS 42100. Fractional Quantum Hall Effect. 100 Units.

# PHYS 42600. Fluid Mechanics. 100 Units.

Terms Offered: Spring

# PHYS 44000. Principles of Particle Detectors. 100 Units.

# PHYS 44100. Advanced Particle Detectors. 100 Units.

We will explore the development of modern detector types, and examine opportunities for developing new capabilities in a variety of fields. Terms Offered: Spring

Prerequisite(s): PHYS 32300

#### PHYS 44300. Quantum Field Theory I. 100 Units.

Topics include Basic Field Theory, Scattering and Feynman Rules, and One Loop Effects. Terms Offered: Autumn Prerequisite(s): PHYS 34200

# PHYS 44400. Quantum Field Theory II. 100 Units.

Topics include Path integral formulation of QFT, Renormalization, Non-Abelian gauge theory. Terms Offered: Winter

# PHYS 44500. Quantum Field Theory-3. 100 Units.

# PHYS 44800. Field Theory in Condensed Matter. 100 Units.

Course description unavailable. Terms Offered: Autumn

#### PHYS 45200. Quantum Optics & Quantum Gases. 100 Units.

Atom-photon interaction and optical Bloch vector, Dressed atom description and radiative processes near resonance, Quantization of electromagnetic field, Nonlinear quantum optics, EPR paradox and quantun entanglement of macroscopic systems, Mechanical effects of radiative process, Atomic interactions and resonant scattering, Bose-Einstein condensation and degenerate Fermi gas, Superfluidity of quantum gases.

# PHYS 45700. Implementation of Quantum Information Processors. 100 Units.

This course emphasizes the experimental aspects of quantum information focusing on implementations rather than algorithms. Several candidate quantum information systems will be discussed including ion traps, neutral atoms, superconducting circuits, semiconducting quantum dots, and linear optics.

#### PHYS 45800. The Physics of Quantum Information. 100 Units.

#### PHYS 46000. Gravitational Waves. 100 Units.

This course will provide a broad overview of gravitational waves, with a focus on current results from LIGO. We will cover the basics of gravitational wave theory, compact binary coalescence and sources of gravitational wave, ground-based gravitational wave detection, LIGO and the first detections, LIGO's black holes and how the Universe might have made them, gravitational wave astrophysics, and the near future of gravitational wave science.

#### PHYS 46200. Nuclear Astrophysics. 100 Units.

Terms Offered: Autumn

#### PHYS 46700. Quantum Field Theory in Curved Spacetime I. 100 Units.

This course covers introductory topics in the study of quantum field theory in curved spacetime. These topics include QFT for a free scalar field and for globally hyperbolic curved spacetimes, and the Unruh effect.

#### PHYS 46800. Quantum Field Theory in Curved Spacetime II. 100 Units.

This course covers advanced topics in the study of quantum field theory in curved spacetime. These topics include the Hawking effect, quantum perturbations in cosmology, black hole evaporation and information loss, and other modern topics.

# PHYS 46900. Effective Field Theories. 100 Units.

TBD

# PHYS 48102. Neutrino Physics. 100 Units.

This is an advanced course on neutrino phenomenology. The topics include neutrino flavor transformations, neutrino mass, sterile neutrinos, non-standard interactions of neutrinos, and other topics of modern interest.

#### PHYS 48300. String Theory-1. 100 Units.

PHYS 48400. String Theory-2. 100 Units.

# PHYS 49000. Basic Principles of Biophysics. 100 Units.

This course is designed to expose graduate students in the physical sciences to conceptual and quantitative questions about biological systems. It will cover a broad range of biological examples from vision in flies and developing embryos to swimming bacteria and gene regulation. This course does not assume specialized biological knowledge or advanced mathematical skills.

#### PHYS 49100. Biological Physics. 100 Units.

#### PHYS 49900. Advanced Research: Physics. 300.00 Units.

This course is for students performing research toward their doctoral thesis.

#### PHYS 70000. Advanced Study: Physics. 300.00 Units.

Advanced Study: Physics



# Department of Statistics

# Chair

Dan Liviu Nicolae, Statistics and Medicine

Professors

- Yali Amit
- Mihai Anitescu, Argonne National Laboratory
- Guillaume Bal
- Lars Peter Hansen, Economics and Statistics
- Steven P. Lalley
- Gregory F. Lawler, Mathematics and Statistics
- Peter McCullagh
- Mary Sara McPeek
- Per Mykland
- Dan Liviu Nicolae, Statistics and Medicine
- John Reinitz
- Mary Silber
- Matthew Stephens
- Stephen M. Stigler
- Rebecca Willett
- Kirk M. Wolter
- Wei Biao Wu
- Associate Professors
- Rina Foygel Barber
- Lek-Heng Lim
- Imre Risi Kondor, Computer Science and Statistics

Assistant Professors

- Chao Gao
- Yuehaw Khoo
- Daniel Sanz-Alonso
- Jingshu Wang

Senior Lecturers

- Eric Baer
- Mei Wang

Associate Instructional Professors

Yibi Huang

Assistant Instructional Professors

Kendra S. Burbank

Instructors

- Tingran Gao
- Daniel Massatt
- Fatma Terzioglu

Visiting Professors

James O. Berger

The Department of Statistics offers an exciting and revamped graduate program that prepares students for cutting-edge interdisciplinary research in a wide variety of fields. The field of statistics has become a core component of research in the biological, physical, and social sciences, as well as in traditional computer science domains such as artificial intelligence. In light of this, the Department of Statistics is currently undergoing a major expansion of approximately ten new faculty into fields of Computational and Applied Mathematics. The massive increase in the data acquired, through scientific

measurement on one hand and through web-based collection on the other, makes the development of statistical analysis and prediction methodologies more relevant than ever. Our graduate program aims to prepare students to address these issues through rigorous training in theory, methodology, and applications of statistics; rigorous training in scientific computation; and research projects in core methodology of statistics and computation as well as in a wide variety of interdisciplinary fields.

The Department of Statistics offers two tracks of graduate study, one leading to the Master of Science (M.S.) degree, the other to the Doctorate of Philosophy (Ph.D.). The M.S. degree is a professional degree. Students who receive this degree are prepared for nonacademic careers in which the use of advanced statistical and computational methods is of central importance. The program also prepares students for possible further graduate study.

During the first year of the Ph.D. program, students are given a thorough grounding in material that forms the foundations of modern statistics and scientific computation, including data analysis, mathematical statistics, probability theory, applied probability and modeling, and computational methods. Throughout the entire program, students attend a weekly consulting seminar where researchers from across the University come to get advice on modeling, statistical analysis, and computation. This seminar is often the source of interesting and ongoing research projects.

In the second year, students have a wide range of choices of topics they can pursue further, based on their interests, through advanced courses and reading courses with faculty. During the second year, students will typically identify their subfield of interest, take some advanced courses in the subject, and interact with the relevant faculty members. The Department maintains very strong connections to numerous other units on campus, either through joint appointments of the faculty or through ongoing collaborations. Students have easy access to faculty in other departments, which allows them to expand their interactions and develop new interdisciplinary research projects. Examples include joint projects with Human Genetics, Ecology and Evolution, Neurobiology, Chemistry, Economics, Health Studies, and Astronomy.

#### Programs and Requirements for the Ph.D.

All sufficiently well-prepared students take 3 of 4 sequences in their first year:

- Applied Statistics
- Theoretical Statistics
- Probability
- Computation and Machine Learning

All students pass prelim exams in 2 of the 4 subjects by the beginning of their second year. Well-prepared students may be allowed to pass one or both of their exams upon arrival. Students should take a distribution requirement of up to two courses in their second year and are otherwise encouraged to explore the great variety of graduate courses on offer, both inside the department and in other departments.

Starting in their second year, students should find a topic for a Ph.D. dissertation and establish a relationship with a Ph.D. adviser. Taking courses with potential advisers is part of this process. The detailed process is listed here (http://www.stat.uchicago.edu/students/phd\_rules.shtml/).

#### The Ph.D.: Training in Teaching, Presentation, and Consulting

Part of every statistician's job is to evaluate the work of others and to communicate knowledge, experience, and insights. Every statistician is, to some extent, an educator, and the department provides graduate students with training for this aspect of their professional lives. The department expects all doctoral students, regardless of their professional objectives and sources of financial support, to take part in a graduated program of participation in some or all phases of instruction, from grading, course assisting, and conducting discussion sections, to being a lecturer with responsibility for an entire course.

Students also receive training in how to present research in short seminars in the first and second years of study. Later, students present their own work in a dissertation proposal and, eventually, in a thesis defense. The student seminars are listed here (http://www.stat.uchicago.edu/seminars/index.shtml/).

Ph.D. students should also participate in the department's consulting program (http://galton.uchicago.edu/consulting/ index.shtml/), which is led by faculty members and exposes the students to empirical projects inside the university. Projects are carried out by groups of students under the guidance of a faculty member. The client is a researcher in an applied area, usually associated with the university. An informal seminar meets regularly over lunch to provide a forum for presenting and discussing problems, solutions, and topics in statistical consultation. Students present interesting or difficult consulting problems to the seminar as a way of stimulating wider consideration of the problem and as a means of developing familiarity with the kinds of problems and lines of attack involved. Often the client will participate in the presentation and discussion.

#### Programs and Requirements for the M.S. degree

The main requirements of the M.S. program are a sequence of at least nine approved courses plus a Master's paper. Students may take up to two years of courses. A detailed set of regulations can be found here (http://galton.uchicago.edu/students/master.shtml/). (http://www.stat.uchicago.edu/students/master.shtml/) A substantial fraction of available courses are the same as for the Ph.D. degree.

# Facilities

Almost all departmental activities--classes, seminars (http://galton.uchicago.edu/seminars/index.shtml/), computation (http://galton.uchicago.edu/local/computing/), and student and faculty offices (http://galton.uchicago.edu/people/)- are located in Jones Laboratory. Each student is assigned a desk in one of several offices. A small departmental library and conference room is a common meeting place for formal and informal gatherings of students and faculty. The major computing facilities of the department are based upon a network of PCs running mainly Linux. One computer room currently houses many of these PCs; these rooms are directly and primarily for graduate students in the Statistics Department. In addition, all student offices have limited computer facilities. For further information, consult the department's computing policies (http://www.stat.uchicago.edu/local/computing/policies/index.shtml/).

# Statistics Throughout the University

In addition to the courses, seminars, and programs in the Department of Statistics, courses and workshops of direct interest to statisticians occur throughout the University, most notably in the programs in statistics and econometrics in the Booth School of Business (http://www.chicagobooth.edu/) and in the research programs in Health Studies (http:// health.bsd.uchicago.edu/), Human Genetics (http://genes.uchicago.edu/), Financial Mathematics and Econometrics (http:// stevanovichcenter.uchicago.edu/) and NORC (http://www.norc.uchicago.edu/) (formerly the National Opinion Research Center). The large number of statistics related seminars (http://galton.uchicago.edu/seminars/index.shtml/) is perhaps the best indication of the vibrancy of the statistics research community here at the University of Chicago.

# Statistics Courses

# STAT 30030. Statistical Theory and Methods Ia. 100 Units.

This course is the first quarter of a two-quarter sequence providing a principled development of statistical methods, including practical considerations in applying these methods to the analysis of data. The course begins with a brief review of probability and some elementary stochastic processes, such as Poisson processes, that are relevant to statistical applications. The bulk of the quarter covers principles of statistical inference from both frequentist and Bayesian points of view. Specific topics include maximum likelihood estimation, posterior distributions, confidence and credible intervals, principles of hypothesis testing, likelihood ratio tests, multinomial distributions, and chi-square tests. Additional topics may include diagnostic plots, bootstrapping, a critical comparison of Bayesian and frequentist inference, and the role of conditioning in statistical inference. Examples are drawn from the social, physical, and biological sciences. The statistical software package R will be used to analyze datasets from these fields and instruction in the use of R is part of the course. Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): STAT 25100 or STAT 25150 or MATH 23500. This course is only open to graduate students in Statistics, Applied Mathematics, and Financial Mathematics, and to undergraduate Statistics majors, or by consent of instructor. Note(s): Some previous experience with statistics helpful but not required. Concurrent or prior linear algebra (MATH 19620 or 20250 or STAT 24300 or equivalent) is recommended for students continuing to STAT 24510. Students may count either STAT 24400 or STAT 24410, but not both, toward the forty-two credits required for graduation. Equivalent Course(s): STAT 24410

# STAT 30040. Statistical Theory and Methods IIa. 100 Units.

This course is a continuation of STAT 24410. The focus is on theory and practice of linear models, including the analysis of variance, regression, correlation, and some multivariate analysis. Additional topics may include bootstrapping for regression models, nonparametric regression, and regression models with correlated errors.

Terms Offered: May be offered in Winter.

Prerequisite(s): STAT 24410 and linear algebra (MATH 19620 or MATH 20250 or STAT 24300 or PHYS 22100 or equivalent). This course is only open to graduate students in Statistics, Applied Mathematics, and Financial Mathematics, and to undergraduate Statistics majors, or by consent of instructor.

Note(s): Students may count either STAT 24500 or STAT 24510, but not both, toward the forty-two credits required for graduation.

Equivalent Course(s): STAT 24510

#### STAT 30100. Mathematical Statistics-1. 100 Units.

This course is part of a two-quarter sequence on the theory of statistics. Topics will include exponential, curved exponential, and location-scale families; mixtures, hierarchical, and conditional modeling including compatibility of conditional distributions; principles of estimation; identifiability, sufficiency, minimal sufficiency, ancillarity, completeness; properties of the likelihood function and likelihood-based inference, both univariate and multivariate, including examples in which the usual regularity conditions do not hold; elements of Bayesian inference and comparison with frequentist methods; and multivariate information inequality. Part of the course will be devoted to elementary asymptotic methods that are useful in the practice of statistics, including methods to derive asymptotic distributions of various estimators and test statistics, such as Pearson's chi-square, standard and nonstandard asymptotics of maximum likelihood estimators and Bayesian estimators, asymptotics of order statistics and extreme order statistics, Cramer's theorem including situations in which the second-order term is needed, and asymptotic efficiency. Other topics (e.g., methods for dependent observations) may be covered if time permits.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): STAT 30400 or consent of instructor

# STAT 30200. Mathematical Statistics-2. 100 Units.

This course continues the development of Mathematical Statistics, with an emphasis on hypothesis testing. Topics include comparison of Bayesian and frequentist hypothesis testing; admissibility of Bayes' rules; confidence and credible sets; likelihood ratio tests and their asymptotics; Bayes factors; methods for assessing predictions for normal means; shrinkage and thresholding methods; sparsity; shrinkage as an example of empirical Bayes; multiple testing and false discovery rates; Bayesian approach to multiple testing; sparse linear regressions (subset selection and LASSO, proof of estimation errors for LASSO, Bayesian perspective of sparse regressions); and Bayesian model averaging.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): STAT 24500 or STAT 30100

# STAT 30400. Distribution Theory. 100 Units.

This course is a systematic introduction to random variables and probability distributions. Topics include standard distributions (i.e. uniform, normal, beta, gamma, F, t, Cauchy, Poisson, binomial, and hypergeometric); properties of the multivariate normal distribution and joint distributions of quadratic forms of multivariate normal; moments and cumulants; characteristic functions; exponential families; modes of convergence; central limit theorem; and other asymptotic approximations.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): STAT 24500 or STAT 24510 and MATH 20500 or MATH 20510, or consent of instructor.

#### STAT 30600. Adv. Statistical Inference 1. 100 Units.

Topics covered in this course will include: Gaussian distributions; conditional distributions; maximum likelihood and REML; Laplace approximation and associated expansion; combinatorics and the partition lattice; Mobius inversion; moments, cumulants symmetric functions, and \$k\$-statistics; cluster expansions; Bartlett identities and Bartlett adjustment; random partitions, partition processes, and CRP process; Gauss-Ewens cluster process; classification models; trees rooted and unrooted; exchangeable random trees; and Cox processes used for classification. Terms Offered: To be determined; may not offered in 2020-2021.

Prerequisite(s): Consent of instructor

# STAT 30750. Numerical Linear Algebra. 100 Units.

This course is devoted to the basic theory of linear algebra and its significant applications in scientific computing. The objective is to provide a working knowledge and hands-on experience of the subject suitable for graduate level work in statistics, econometrics, quantum mechanics, and numerical methods in scientific computing. Topics include Gaussian elimination, vector spaces, linear transformations and associated fundamental subspaces, orthogonality and projections, eigenvectors and eigenvalues, diagonalization of real symmetric and complex Hermitian matrices, the spectral theorem, and matrix decompositions (QR, Cholesky and Singular Value Decompositions). Systematic methods applicable in high dimensions and techniques commonly used in scientific computing are emphasized. Students enrolled in the graduate level STAT 30750 will have additional work in assignments, exams, and projects including applications of matrix algebra in statistics and numerical computations implemented in Matlab or R. Some programming exercises will appear as optional work for students enrolled in the undergraduate level STAT 24300.

Terms Offered: Autumn

Prerequisite(s): Multivariate calculus (MATH 15910 or MATH 16300 or MATH 16310 or MATH 19520 or MATH 20000 or MATH 20500 or MATH 20510 or MATH 20900 or PHYS 22100 or equivalent). Previous exposure to linear algebra is helpful.

Equivalent Course(s): STAT 24300

# STAT 30800. Advanced Statistical Inference II. 100 Units.

This course will discuss the following topics in high-dimensional statistical inference: random matrix theory and asymptotics of its eigen-decompositions, estimation and inference of high-dimensional covariance matrices, large dimensional factor models, multiple testing and false discovery control and high-dimensional semiparametrics. On the methodological side, probability inequalities, including exponential, Nagaev, and Rosenthal-type inequalities will be introduced. Terms Offered: To be determined; may not be offered in 2020-2021.

Prerequisite(s): STAT 30400, STAT 30100, and STAT 30210, or consent of instructor

#### STAT 30810. High Dimensional Time Series Analysis. 100 Units.

This course will include lectures on the following topics: review of asymptotics for low dimensional time series analysis (linear and nonlinear processes; nonparametric methods; spectral and time domain approaches); covariance, precision, and spectral density matrix estimation for high dimensional time series; factor models; estimation of high dimensional vector autoregressive processes; prediction; and high dimensional central limit theorems under dependence. Terms Offered: To be determined

STAT 30850. Multiple Testing, Modern Inference, and Replicability. 100 Units.

This course examines the problems of multiple testing and statistical inference from a modern point of view. Highdimensional data is now common in many applications across the biological, physical, and social sciences. With this increased capacity to generate and analyze data, classical statistical methods may no longer ensure the reliability or replicability of scientific discoveries. We will examine a range of modern methods that provide statistical inference tools in the context of modern large-scale data analysis. The course will have weekly assignments as well as a final project, both of which will include both theoretical and computational components.

Terms Offered: To be determined

Prerequisite(s): STAT 24400 or STAT 24410. Familiarity with regression and with coding in R are recommended. Equivalent Course(s): STAT 27850

# STAT 30900. Mathematical Computation I: Matrix Computation Course. 100 Units.

This is an introductory course on numerical linear algebra, which is quite different from linear algebra. We will be much less interested in algebraic results that follow from axiomatic definitions of fields and vector spaces but much more interested in analytic results that hold only over the real and complex fields. The main objects of interest are realor complex-valued matrices, which may come from differential operators, integral transforms, bilinear and quadratic forms, boundary and coboundary maps, Markov chains, correlations, DNA microarray measurements, movie ratings by viewers, friendship relations in social networks, etc. Numerical linear algebra provides the mathematical and algorithmic tools for analyzing these matrices. Topics covered: basic matrix decompositions LU, QR, SVD; Gaussian elimination and LU/LDU decompositions; backward error analysis, Gram-Schmidt orthogonalization and QR/complete orthogonal decompositions; solving linear systems, least squares, and total least squares problem; low-rank matrix approximations and matrix completion. We shall also include a brief overview of stationary and Krylov subspace iterative methods; eigenvalue and singular value problems; and sparse linear algebra.

#### Terms Offered: Autumn

Prerequisite(s): Linear algebra (STAT 24300 or equivalent) and some previous experience with statistics. Equivalent Course(s): CMSC 37810, CAAM 30900

# STAT 31010. Mathematical Computation II: Optimization. 100 Units.

The course covers the fundamentals of convex optimization with applications to problems in science, medicine, and engineering, including linear programming, geometric programming, second-order cone programming, semidefinite programming, and linearly and quadratically constrained quadratic programming. The last part of the course examines the generalized moment problem, a singularly powerful technique that allows one to encode all kinds of problems (in probability, statistics, control theory, financial mathematics, signal processing, etc.) and solve them or their relaxations as convex optimization problems.

#### Terms Offered: Winter

Prerequisite(s): STAT 30900/CMSC 37810, a familiarity with the basics of probability theory.

#### STAT 31015. Mathematical Computation IIA: Convex Optimization. 100 Units.

The course will cover techniques in unconstrained and constrained convex optimization and a practical introduction to convex duality. The course will focus on (1) formulating and understanding convex optimization problems and studying their properties; (2) understanding and using the dual; and (3) presenting and understanding optimization approaches, including interior point methods and first order methods for non-smooth problems. Examples will be mostly from data fitting, statistics and machine learning.

Instructor(s): Nathan Srebro Terms Offered: Winter Prerequisite(s): STAT 30900/CMSC 37810 Equivalent Course(s): CAAM 31015, TTIC 31070, BUSN 36903, CMSC 35470

# STAT 31020. Mathematical Computation IIB: Nonlinear Optimization. 100 Units.

This course covers the fundamentals of continuous optimization with an emphasis on algorithmic and computational issues. The course starts with the study of optimality conditions and techniques for unconstrained optimization, covering line search and trust region approaches, and addressing both factorization-based and iterative methods for solving the subproblems. The Karush-Kuhn-Tucker conditions for general constrained and nonconvex optimization are then discussed and used to define algorithms for constrained optimization including augmented Lagrangian, interior-point and (if time permits) sequential quadratic programming. Iterative methods for large sparse problems, with an emphasis on projected gradient methods, will be presented. Several substantial programming projects (using MATLAB and aiming at both data-intensive and physical sciences applications) are completed during the course.

Terms Offered: Winter Prerequisite(s): STAT 30900/CMSC 37810

Equivalent Course(s): CAAM 31020

# STAT 31060. Further Mathematical Computation: Matrix Computation and Optimization. 100 Units.

This course is primarily about iterative algorithms in matrix computation. For linear systems and least squares problems, we will discuss stationary methods (Jacobi, Gauss-Seidel, SOR), semi-iterative methods (Richardson, steepest descent, Chebyshev, conjugate gradient), and Krylov subspace methods (MINRES, SYMMLQ, LSQR, GMRES, QMR, BiCG). We will cover some basic ideas for preconditioning and stopping conditions. For eigenvalue problems, we will discuss direct (Givens and Householder) and iterative (Lanczos and Arnoldi) methods for reducing a matrix into tridiagonal and Hessenberg forms, as well as power, inverse power, Rayleigh quotient, Jacobi, Jacobi-Davidson, and Francis QR algorithms for estruction of eigenvalues/eigenvectors. Lastly, we will discuss algorithms for generalized and quadratic eigenvalue problems (QZ algorithm) as well as for singular value decomposition (Golub-Kahan and Golub-Reinsch). Terms Offered: To be determined

# STAT 31080. Numerical Analysis for Statistics and Applied Mathematics. 100 Units.

This is a beginning graduate course on selected numerical methods used in modern statistics and applied mathematics. Topics include fundamentals of ODEs and PDEs, quadratures, and Monte Carlo methods. Methods of analysis are introduced including error measures and different notions of numerical convergence. Newton's method, convex optimization and elements of nonconvex optimization are covered, together with implementations in selected selected software packages. Terms Offered: Not offered in 2019-2020.

Prerequisite(s): STAT 24300 or background in linear algebra.

# STAT 31100. Mathematical Computation III: Numerical Methods for PDE's. 100 Units.

The first part of this course introduces basic properties of PDE's; finite difference discretizations; and stability, consistency, convergence, and Lax's equivalence theorem. We also cover examples of finite difference schemes; simple stability analysis; convergence analysis and order of accuracy; consistency analysis and errors (i.e., dissipative and dispersive errors); and unconditional stability and implicit schemes. The second part of this course includes solution of stiff systems in 1, 2, and 3D; direct vs. iterative methods (i.e., banded and sparse LU factorizations); and Jacobi, Gauss-Seidel, multigrid, conjugate gradient, and GMRES iterations.

Terms Offered: Spring

Prerequisite(s): Some prior exposure to differential equations and linear algebra Equivalent Course(s): CMSC 37812, CAAM 31100, MATH 38309

# STAT 31120. Numerical Methods for Stochastic Differential Equations. 100 Units.

The numerical analysis of SDE differs significantly from that of ODE due to the peculiarities of stochastic calculus. This course starts with a brief review of stochastic calculus and stochastic differential equations, then emphasizing the numerical methods needed to solve such equations. The stochastic Taylor expansion provides the basis for the discrete-time numerical methods for differential equations. The course presents many results on high-order methods for strong sample path approximations and for weak functional approximations. To help with developing an intuitive understanding of the underlying mathematics and hand-on numerical skills, examples and exercises on PC are included. Terms Offered: Spring

Prerequisite(s): Knowledge of ODE and SDE is essential. STAT 39000 or STAT 39010 or STAT 38510 are strongly. recommended.

# STAT 31140. Computational Imaging: Theory and Methods. 100 Units.

Computational imaging refers to the process of forming images from data where computation plays an integral role. This course will cover basic principles of computational imaging, including image denoising, regularization techniques, linear inverse problems and optimization-based solvers, and data acquisition models associated with tomography and interferometry. Specific topics may include patch-based denoising, sparse coding, total variation, dictionary learning, computational photography, compressive imaging, inpainting, and deep learning for image reconstruction. Instructor(s): R. Willett Terms Offered: Spring

Equivalent Course(s): CAAM 31140, CMSC 31140

# STAT 31150. Inverse Problems and Data Assimilation. 100 Units.

This class provides an introduction to Bayesian Inverse Problems and Data Assimilation, emphasizing the theoretical and algorithmic inter-relations between both subjects. We will study Gaussian approximations and optimization and sampling algorithms, including a variety of Kalman-based and particle filters as well as Markov chain Monte Carlo schemes designed for high-dimensional inverse problems.

Instructor(s): D. Sanz-Alonso Terms Offered: Autumn

Prerequisite(s): Familiarity with calculus, linear algebra, and probability/statistics at the level of STAT 24400 or STAT 24410. Some knowledge of ODEs may also be helpful.

Equivalent Course(s): CAAM 31150

# STAT 31190. Fast Algorithms. 100 Units.

This course will introduce students to several classes of computational methods broadly referred to as "fast analysis-based algorithms" which exploit information about structure and symmetry to obtain more favorable computational complexity. Examples which will be discussed are butterfly algorithms, fast multipole methods, fast direct solvers, and hierarchical matrix compression. Though many of these algorithms first arose in physical applications such as simulating the motion of stars or the propagation of light and sound, they have subsequently found many fruitful applications in signal processing and data science.

Terms Offered: Spring

Prerequisite(s): Familiarity with PDEs, analysis, and programming.

# STAT 31200. Introduction to Stochastic Processes I. 100 Units.

This course introduces stochastic processes not requiring measure theory. Topics include branching processes, recurrent events, renewal theory, random walks, Markov chains, Poisson, and birth-and-death processes.

Instructor(s): Staff Terms Offered: Not offered in 2020-2021.

Prerequisite(s): STAT 25100 and MATH 20500; STAT 30400 or consent of instructor

Note(s): Students with credit for MATH 235 should not enroll in STAT 312.

#### STAT 31210. Applied Functional Analysis. 100 Units.

This course will cover classical topics of applied functional analysis: description of functional spaces such as Banach spaces and Hilbert spaces; properties of linear operators acting on such spaces, compactness and spectral decomposition of compact operators; and applications to ordinary and partial differential equations.

Terms Offered: To be determined.

Equivalent Course(s): CAAM 31210
#### STAT 31220. Partial Differential Equations. 100 Units.

This is an introduction to the theory of partial differential equations covering representation formulas and regularity theory for elliptic, parabolic, and hyperbolic equations; the method of characteristics; variational formulations for second-order linear elliptic equations; and the calculus of variations.

Terms Offered: Winter

Equivalent Course(s): CAAM 31220

#### STAT 31230. Inverse Problems in Imaging. 100 Units.

This course focuses on the mathematical description of many inverse problems that appear in geophysical and medical imaging: X-ray tomography, ultrasound tomography and seismic imaging, optical and electrical tomography, as well as more recent imaging modalities such as elastography and photo-acoustic tomography. Seen as reconstructions of constitutive parameters in differential equations from redundant boundary measurements, these continuous models tell us which parameters may or may not be reconstructed, and with which stability with respect to measurement errors. Time-permitting, we will also consider general methodologies to perform such reconstructions (regularization, optimization, Bayesian framework). Some knowledge of PDE and Fourier transforms is recommended.

Terms Offered: Spring Prerequisite(s): STAT 31220 Equivalent Course(s): CAAM 31230

#### STAT 31240. Variational Methods in Image Processing. 100 Units.

This course discusses mathematical models arising in image processing. Topics covered will include an overview of tools from the calculus of variations and partial differential equations, applications to the design of numerical methods for image denoising, deblurring, and segmentation, and the study of convergence properties of the associated models. Students will gain an exposure to the theoretical basis for these methods as well as their practical application in numerical computations. Terms Offered: Spring

Equivalent Course(s): CAAM 31240

#### STAT 31300. Introduction to Stochastic Processes II. 100 Units.

Topics include continuous-time Markov chains, Markov chain Monte Carlo, discrete-time martingales, and Brownian motion and diffusions. Our emphasis is on defining the processes and calculating or approximating various related probabilities. The measure theoretic aspects of these processes are not covered rigorously.

Terms Offered: Not offered in 2019-2020.

Prerequisite(s): STAT 31200 or consent of instructor

#### STAT 31410. Applied Dynamical Systems. 100 Units.

This course is an introduction to dynamical systems for analysis of nonlinear ordinary differential equations. The focus is on methods of bifurcation theory, canonical examples of forced nonlinear oscillators, fast-slow systems, and chaos. Examples will be drawn from mathematical modeling of physical and biological systems. While geometric perspectives will be emphasized, assignments will also introduce asymptotic methods for analysis and use numerical simulation as an exploratory tool. This course assumes students have a background in ordinary differential equations and linear algebra at the undergraduate level and an interest in mathematical modeling for applications.

Instructor(s): M. Silber Terms Offered: Spring

Prerequisite(s): ODEs and/or dynamical systems at an undergraduate level or consent of instructor.

Equivalent Course(s): CAAM 31410

#### STAT 31430. Applied Linear Algebra. 100 Units.

This course will provide a review and development of topics in linear algebra aimed toward preparing students for further graduate coursework in Computational and Applied Mathematics. Topics will include discussion of matrix factorizations (including diagonalization, the spectral theorem for normal matrices, the singular value decompositions), and an overview of classical direct and iterative approaches to numerical methods for problems formulated in the language of linear algebra (including the conjugate gradient method). Additional topics will be included depending on student interests.

Instructor(s): E. Baer Terms Offered: Autumn

Prerequisite(s): STAT 24300 or MATH 20250 or Graduate Student in Physical Sciences Division Equivalent Course(s): CAAM 31430

#### STAT 31440. Applied Analysis. 100 Units.

This course provides an overview of fundamentals of mathematical analysis with an eye towards developing the toolkit of graduate students in applied mathematics. Topics covered include metric spaces and basic topological notions, aspects of mathematical analysis in several variables, and an introduction to measure and integration. Instructor(s): E. Baer Terms Offered: Autumn

Equivalent Course(s): CAAM 31440

#### STAT 31450. Applied Partial Differential Equations. 100 Units.

Partial differential equations (PDEs) are used to model applications in a wide variety of fields: fluid dynamics, optics, atomic and plasma physics, elasticity, chemical reactions, climate modeling, stock markets, etc. The study of their mathematical structure and solution methods remains at the forefront of applied mathematics. The course concentrates on deriving an important set of examples of PDEs from simple physical models, which are often closely related to those describing more complex physical systems. The course will also cover analytical methods and tools for solving these PDEs; such as separation of variables, Fourier series and transforms, Sturm-Liouville theory, and Green's functions. The course is suitable for graduate students and advanced undergraduates in science, engineering, and applied mathematics.

Terms Offered: Spring

Prerequisite(s): Instructor consent. Equivalent Course(s): CAAM 31450

#### STAT 31460. Applied Fourier Analysis. 100 Units.

Decompositions of functions into frequency components via the Fourier transform, and related sparse representations, are fundamental tools in applied mathematics. These ideas have been important in applications to signal processing, imaging, and the quantitative and qualitative analysis of a broad range of mathematical models of data (including modern approaches to machine learning) and physical systems. Topics to be covered in this course include an overview of classical ideas related to Fourier series and the Fourier transform, wavelet representations of functions and the framework of multiresolution analysis, and applications throughout computational and applied mathematics.

Terms Offered: Winter

Prerequisite(s): Graduate student in the Physical Sciences Division or consent of instructor.

Equivalent Course(s): CAAM 31460

#### STAT 31511. Monte Carlo Simulation. 100 Units.

This class primarily concerns the design and analysis of Monte Carlo sampling techniques for the estimation of averages with respect to high dimensional probability distributions. Standard simulation tools such as importance sampling, Metropolis-Hastings, Langevin dynamics, and hybrid Monte Carlo will be introduced along with basic theoretical concepts regarding their convergence to equilibrium. The class will explore applications of these methods in Bayesian statistics and machine learning as well as to other simulation problems arising in the physical and biological sciences. Particular attention will be paid to the major complicating issues like conditioning (with analogies to optimization) and rare events and methods to address them.

Terms Offered: Autumn. Not offered in 2020-2021.

Prerequisite(s): Multivariate calculus and linear algebra; elementary knowledge of ordinary differential equations.

#### STAT 31521. Applied Stochastic Processes. 100 Units.

This course concerns the estimation of the dynamic properties of time-dependent stochastic systems. The class will begin with an introduction to the numerical simulation of continuous time Markov processes including the discretization of stochastic (and ordinary) differential equations. Problems associated with multiple time scales will be discussed along with methods to address them (implicit discretizations, multiscale methods and dimensional reduction). The class will also cover interacting particle methods and other techniques for the efficient simulation of dynamical rare events. Terms Offered: Winter. Not offered in 2020-2021.

Prerequisite(s): Multivariate calculus and linear algebra

STAT 31550. Uncertainty Quantification. 100 Units.

This course will cover mathematical, statistical, and algorithmic questions that arise at the interface of complex modeling and data processing. Emphasis will be given to characterizing and quantifying the uncertainties inherent in the use of models and to exploring principled ways to reduce said uncertainty by the use of data. Specific topics include Bayesian inverse problems and data assimilation.

Terms Offered: Winter

Prerequisite(s): STAT 30200 or consent of instructor

#### STAT 31610. Mathematical Aspects of Electronic Structure of Materials. 100 Units.

This course considers mathematical and numerical methods to approach electronic structure of materials through several hot-topic examples including topological insulators and incommensurate 2D materials in addition to classical systems such as periodic crystals. The course will begin with a discussion of the basics of quantum mechanics for those not yet familiar before moving to models designed for varying system sizes, from DFT to tight-binding. The theory and numerical tools for studying observables such as Chern numbers, conductivity, and density of states will be considered. Equivalent Course(s): CAAM 31610

#### STAT 31700. Introduction to Probability Models. 100 Units.

This course introduces stochastic processes as models for a variety of phenomena in the physical and biological sciences. Following a brief review of basic concepts in probability, we introduce stochastic processes that are popular in applications in sciences (e.g., discrete time Markov chain, the Poisson process, continuous time Markov process, renewal process and Brownian motion).

Instructor(s): Staff Terms Offered: To be determined

Prerequisite(s): STAT 24400 or STAT 24410 or STAT 25100 or STAT 25150 Equivalent Course(s): STAT 25300

#### STAT 31900. Introduction to Causal Inference. 100 Units.

This course is designed for graduate students and advanced undergraduate students from the social sciences, education, public health science, public policy, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The goal of this course is to equip students with basic knowledge of and analytic skills in causal inference. Topics for the course will include the potential outcomes framework for causal inference; experimental and observational studies; identification assumptions for causal parameters; potential pitfalls of using ANCOVA to estimate a causal effect; propensity score based methods including matching, stratification, inverse-probability-of-treatment-weighting (IPTW), marginal mean weighting through stratification (MMWS), and doubly robust estimation; the instrumental variable (IV) method; regression discontinuity design (RDD) including sharp RDD and fuzzy RDD; difference in difference (DID) and generalized DID methods for cross-section and panel data, and fixed effects model. Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 is a prerequisite. This course is a prerequisite for "Advanced Topics in Causal Inference" and "Mediation, moderation, and spillover effects." Instructor(s): G. Hong Terms Offered: Winter

Prerequisite(s): Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 Note(s): CHDV Distribution: M; M

Equivalent Course(s): PLSC 30102, CHDV 30102, MACS 51000, SOCI 30315, PBHS 43201

#### STAT 32400. Probability and Statistics. 100 Units.

This Ph.D.-level course (in addition to BUSF 41902/STAT 32500) provides a thorough introduction to Classical and Bayesian statistical theory. The two quarter sequence provides the necessary probability and statistical background for many of the advanced courses in the Chicago Booth curriculum. The central topic is probability. Basic concepts in probability are covered. An introduction to martingales is given. Homework assignments are given throughout the quarter. Course description is subject to change. Please visit the Booth portal and search via the course search tool for the most up to date information: http://boothportal.chicagobooth.edu/portal/server.pt/community/course\_search

Equivalent Course(s): BUSN 41901

#### STAT 32900. Applied Multivariate Analysis. 100 Units.

The course will introduce the basic theory and applications for analyzing multidimensional data. Topics include multivariate distributions, Gaussian models, multivariate statistical inferences and applications, classifications, cluster analysis, and dimension reduction methods. Course content is subject to change in order to keep the contents up-to-date with new development in multivariate statistical techniques. The course is offered in alternate years by the Statistics Department (S15, S17, ...) and the Booth Business School (S16, S18, ...). When the course is offered by the Booth school, please visit the Booth portal and search via the course search tool: http://boothportal.chicagobooth.edu/portal/server.pt/community/ course\_search for the most up to date information.

Equivalent Course(s): BUSN 41912

#### STAT 32940. Multivariate Data Analysis via Matrix Decompositions. 100 Units.

This course is about using matrix computations to infer useful information from observed data. One may view it as an "applied" version of Stat 30900 although it is not necessary to have taken Stat 30900; the only prerequisite for this course is basic linear algebra. The data analytic tools that we will study will go beyond linear and multiple regression and often fall under the heading of "Multivariate Analysis" in Statistics. These include factor analysis, correspondence analysis, principal components analysis, multidimensional scaling, linear discriminant analysis, canonical correlation analysis, cluster analysis, etc. Understanding these techniques require some facility with matrices in addition to some basic statistics, both of which the student will acquire during the course. Program elective.

Instructor(s): L. Lim Terms Offered: Autumn

Equivalent Course(s): FINM 33180, CAAM 32940

#### STAT 32950. Multivariate Statistical Analysis: Applications and Techniques. 100 Units.

This course focuses on applications and techniques for analysis of multivariate and high dimensional data. Beginning subjects cover common multivariate techniques and dimension reduction, including principal component analysis, factor model, canonical correlation, multi-dimensional scaling, discriminant analysis, clustering, and correspondence analysis (if time permits). Further topics on statistical learning for high dimensional data and complex structures include penalized regression models (LASSO, ridge, elastic net), sparse PCA, independent component analysis, Gaussian mixture model, Expectation-Maximization methods, and random forest. Theoretical derivations will be presented with emphasis on motivations, applications, and hands-on data analysis.

Instructor(s): M. Wang Terms Offered: Spring

Prerequisite(s): (STAT 24300 or MATH 20250) and (STAT 24500 or STAT 24510). Graduate students in Statistics or Financial Mathematics can enroll without prerequisites.

Note(s): Linear algebra at the level of STAT 24300. Knowledge of probability and statistical estimation techniques (e.g. maximum likelihood and linear regression) at the level of STAT 24400-24500. Equivalent Course(s): STAT 24620

Equivalent Course(s). 51A1 24020

#### STAT 33100. Sample Surveys. 100 Units.

This course covers random sampling methods; stratification, cluster sampling, and ratio estimation; and methods for dealing with nonresponse and partial response.

Instructor(s): K. Wolter Terms Offered: Autumn

Prerequisite(s): Consent of instructor

#### STAT 33500. Time-series Analysis for Forecasting and Model Building. 100 Units.

Forecasting plays an important role in business planning and decisionmaking. This Ph.D.-level course discusses time series models that have been widely used in business and economic data analysis and forecasting. Both theory and methods of the models are discussed. Real examples are used throughout the course to illustrate applications. The topics covered include: (1) stationary and unit-root non-stationary processes; (2) linear dynamic models, including Autoregressive Moving Average models; (3) model building and data analysis; (4) prediction and forecasting evaluation; (5) asymptotic theory for estimation including unit-root theory; (6) models for time varying volatility; (7) models for time varying correlation including Dynamic Conditional Correlation and time varying factor models.; (9) state-space models and Kalman filter; and (10) models for high frequency data. Course description is subject to change. Please visit the Booth portal and search via the course search tool for the most up to date information: http://boothportal.chicagobooth.edu/portal/server.pt/community /course\_search/ Prerequisite(s): BUSF 41901/STAT 32400 or instructor consent.

Equivalent Course(s): BUSN 41910

#### STAT 33600. Time Dependent Data. 100 Units.

This course considers the modeling and analysis of data that are ordered in time. The main focus is on quantitative observations taken at evenly spaced intervals and includes both time-domain and spectral approaches. Instructor(s): W. Wu

Prerequisite(s): STAT 24500 w/B- or better or STAT 24510 w/C+ or better is required; alternatively STAT 22400 w/B- or better and exposure to multivariate calculus (MATH 16300 or MATH 16310 or MATH 19520 or MATH 20000 or MATH 20500 or MATH 20500). Graduate students in Statistics or Financial Mathematics can enroll without prerequisites. Some previous exposure to Fourier series is helpful but not required. Equivalent Course(s): STAT 26100

#### STAT 33700. Multivariate Time Series Analysis. 100 Units.

This course investigates the dynamic relationships between variables. It starts with linear relationships between two variables, including distributed-lag models and detection of unidirectional dependence (Granger causality). Nonlinear and time-varying relationships are also discussed. Dynamic models discussed include vector autoregressive models, vector autoregressive moving-average models, multivariate regression models with time series errors, co-integration and error-correction models, state-space models, dynamic factor models, and multivariate volatility models such as BEKK, Dynamic conditional correlation, and copula-based models. The course also addresses impulse response function, structural specification, co-integration tests, least squares estimates, maximum likelihood estimates, principal component analysis, asymptotic principal component analysis is an integral part of the course. Students are expected to analyze many real data sets. The main software used in the course is the MTS package in R, but students may use their own software if preferred. Equivalent Course(s): BUSN 41914

**STAT 33910. Financial Statistics: Time Series, Forecasting, Mean Reversion, and High Frequency Data. 100 Units.** This course is an introduction to the econometric analysis of high-frequency financial data. This is where the stochastic models of quantitative finance meet the reality of how the process really evolves. The course is focused on the statistical theory of how to connect the two, but there will also be some data analysis. With some additional statistical background (which can be acquired after the course), the participants will be able to read articles in the area. The statistical theory is longitudinal, and it thus complements cross-sectional calibration methods (implied volatility, etc.). The course also discusses volatility clustering and market microstructure.

Terms Offered: Winter

Prerequisite(s): Some statistics/econometrics background as in STAT 24400–24500, or FINM 33150 and FINM 33400, or equivalent, or consent of instructor.

Equivalent Course(s): FINM 33170

#### STAT 34000. Gaussian Processes. 100 Units.

Gaussian processes are commonly used in statistical models for spatial and spatial-temporal processes and for computer model output. They are also frequently used as building blocks for non-Gaussian process models. This course will begin with an overview of the theory for Gaussian processes, with a focus on stationary processes and their associated spectral properties and how these relate to problems of spatial interpolation. With this foundation, we will proceed to discuss a variety of approaches to developing useful classes of Gaussian process models, with a focus on spatial-temporal processes. Computational problems and possible solutions for fitting Gaussian process models to large, irregularly observed datasets will form the last part of the class. Applications to environmental monitoring data, computer model output and possibly other areas will be considered. This class is aimed at PhD students in Statistics, but may be accessible to others with a strong background in Statistics (say, STAT 24500 and 34300), some background in analysis and previous exposure to stochastic processes.

Terms Offered: Not offered in 2019-2020.

Prerequisite(s): STAT 24500 and STAT 34300, or some background in analysis and previous exposure to stochastic processes.

#### STAT 34300. Applied Linear Stat Methods. 100 Units.

This course introduces the theory, methods, and applications of fitting and interpreting multiple regression models. Topics include the examination of residuals, the transformation of data, strategies and criteria for the selection of a regression equation, nonlinear models, biases due to excluded variables and measurement error, and the use and interpretation of computer package regression programs. The theoretical basis of the methods, the relation to linear algebra, and the effects of violations of assumptions are studied. Techniques discussed are illustrated by examples involving both physical and social sciences data.

Terms Offered: Autumn

Prerequisite(s): Graduate student in Statistics or Financial Mathematics or instructor consent.

Note(s): Students who need it should take Linear Algebra (STAT 24300 or equivalent) concurrently.

#### STAT 34700. Generalized Linear Models. 100 Units.

This applied statistics course is a successor of STAT 34300 and covers the foundations of generalized linear models (GLM). We will discuss the general linear modeling idea for exponential family data and introduce specifically models for binary, multinomial, count and categorical data, and the challenges in model fitting, and inference. We will also discuss approaches that supplement the classical GLM, including quasi-likelihood for over-dispersed data, robust estimation, and penalized GLM. The course also covers related topics including mixed effect models for clustered data, the Bayesian approach of GLM, and survival analysis. This course will make a balance between practical real data analysis with examples and a deeper understanding of the models with mathematical derivations.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): STAT 343 (or a similar-level linear regression course) or consent of instructor; comfortable with programming in R.

#### STAT 34800. Modern Methods in Applied Statistics. 100 Units.

This course covers latent variable models and graphical models; definitions and conditional independence properties; Markov chains, HMMs, mixture models, PCA, factor analysis, and hierarchical Bayes models; methods for estimation and probability computations (EM, variational EM, MCMC, particle filtering, and Kalman Filter); undirected graphs, Markov Random Fields, and decomposable graphs; message passing algorithms; sparse regression, Lasso, and Bayesian regression; and classification generative vs. discriminative. Applications will typically involve high-dimensional data sets, and algorithmic coding will be emphasized.

Terms Offered: Spring

#### STAT 34900. Data Analysis Project. 100 Units.

The first half of this class will focus on general principles of data analysis and how to report the results of an analysis, including taking account of the context of the data, making informative and clear visual displays, developing relevant statistical models and describing them clearly, and carrying out diagnostic procedures to assess the appropriateness of adopted models. The second half of the class will focus on individualized data analysis projects. Students working on a data analysis project in another context (e.g., for an MS paper or for consulting) may, with proper permission, use that project for this course as well. It is intended that some projects in this class may develop into MS papers. Terms Offered: To be determined

Prerequisite(s): STAT 34700 or permission of instructor

#### STAT 35201. Introduction to Clinical Trials. 100 Units.

This course will review major components of clinical trial conduct, including the formulation of clinical hypotheses and study endpoints, trial design, development of the research protocol, trial progress monitoring, analysis, and the summary and reporting of results. Other aspects of clinical trials to be discussed include ethical and regulatory issues in human subjects research, data quality control, meta-analytic overviews and consensus in treatment strategy resulting from clinical trials, and the broader impact of clinical trials on public health.

Instructor(s): Y. Ji Terms Offered: Winter

Prerequisite(s): PBHS 32100 or STAT 22000; Introductory Statistics or Consent of Instructor Equivalent Course(s): PBHS 32901

#### STAT 35400. Gene Regulation. 100 Units.

This course covers the fundamental theory of gene expression in prokaryotes and eukaryotes through lectures and readings in the primary literature. Natural and synthetic genetic systems arising in the context of E. coli physiology and Drosophila development will be used to illustrate fundamental biological problems together with the computational and theoretical tools required for their solution. These tools include large-scale optimization, image processing, ordinary and partial differential equations, the chemical Langevin and Fokker-Planck equations, and the chemical master equation. A central theme of the class is the art of identifying biological problems which require theoretical analysis and choosing the correct mathematical framework with which to solve the problem.

Terms Offered: To be determined; may not offered in 2020-2021.

Prerequisite(s): Consent of instructor

Equivalent Course(s): CAAM 35400, ECEV 35400, MGCB 35401

#### STAT 35410. Genomic Evolution I. 100 Units.

Canalization, a unifying biological principle first enunciated by Conrad Waddington in 1942, is an idea that has had tremendous intellectual influence on developmental biology, evolutionary biology, and mathematics. In this course we will explore canalization in all three contexts through extensive reading and discussion of both the classic and modern primary literature. We intend this exploration to raise new research problems which can be evaluated for further understanding. We encourage participants to present new ideas in this area for comment and discussion.

Instructor(s): M. Long, J. Reinitz, and C-I. Wu Terms Offered: TBD. not offered in 2018-19

Equivalent Course(s): EVOL 35901, ECEV 35901

#### STAT 35420. Stochastic Processes in Gene Regulation. 100 Units.

This didactic course covers the fundamentals of stochastic chemical processes as they arise in the study of gene regulation. The central object of study is the Chemical Master Equation and its coarse-grainings at the Langevin/Fokker-Planck, linear noise, and deterministic levels. We will consider both mathematical and computational approaches in contexts where there are both single and multiple deterministic limits.

Instructor(s): J. Reinitz Terms Offered: To be determined; may not be offered in 2020-2021.

Prerequisite(s): Consent of instructor.

Equivalent Course(s): MGCB 35420, ECEV 35420, CAAM 35420

#### STAT 35450. Fundamentals of Computational Biology: Models and Inference. 100 Units.

Covers key principles in probability and statistics that are used to model and understand biological data. There will be a strong emphasis on stochastic processes and inference in complex hierarchical statistical models. Topics will vary but the typical content would include: Likelihood-based and Bayesian inference, Poisson processes, Markov models, Hidden Markov models, Gaussian Processes, Brownian motion, Birth-death processes, the Coalescent, Graphical models, Markov processes on trees and graphs, Markov Chain Monte Carlo.

Instructor(s): J. Novembre, M. Stephens Terms Offered: Winter Prerequisite(s): STAT 244

Equivalent Course(s): HGEN 48600

#### STAT 35460. Fundamentals of Computational Biology: Algorithms and Applications. 100 Units.

This course will cover principles of data structure and algorithms, with emphasis on algorithms that have broad applications in computational biology. The specific topics may include dynamic programming, algorithms for graphs, numerical optimization, finite-difference, schemes, matrix operations/factor analysis, and data management (e.g. SQL, HDF5). We will also discuss some applications of these algorithms (as well as commonly used statistical techniques) in genomics and systems biology, including genome assembly, variant calling, transcriptome inference, and so on. Instructor(s): Xin He, Mengije Chen Terms Offered: Spring

Equivalent Course(s): HGEN 48800

#### STAT 35490. Introduction to Statistical Genetics. 100 Units.

As a result of technological advances over the past few decades, there is a tremendous wealth of genetic data currently being collected. These data have the potential to shed light on the genetic factors influencing traits and diseases, as well as on questions of ancestry and population history. The aim of this course is to develop a thorough understanding of probabilistic models and statistical theory and methods underlying analysis of genetic data, focusing on problems in complex trait mapping, with some coverage of population genetics. Although the case studies are all in the area of statistical genetics, the statistical inference topics, which will include likelihood-based inference, linear mixed models, and restricted maximum likelihood, among others, are widely applicable to other areas. No biological background is needed, but a strong foundation in linear algebra, as well as probability and statistics at the level of STAT 24400-STAT 24500 or higher is assumed. Instructor(s): M. McPeek Terms Offered: Autumn

Prerequisite(s): STAT 24500 or STAT 24510

Note(s): STAT 26300 can count as either a List A or List B elective in the Statistics major.

Equivalent Course(s): STAT 26300

#### STAT 35500. Statistical Genetics. 100 Units.

This is an advanced course in statistical genetics. We will take an in-depth look at statistical methods development in recent genetics literature, with the aim of achieving a deep understanding of the modeling approaches and assumptions, statistical principles, mathematical theorems, computational issues, and data analytic approaches underlying the methods. The goal is for the student to be able to ultimately apply the principles learned to future statistical methods development for genetic data analysis. This is a discussion course and student presentations will be required. Topics depend on the interests of the participants and will be based on recent published literature. Topics may include, but are not limited to, statistical problems in genetic association mapping, population genetics, integration of different types of genetic data, and genetic models for complex traits. The course material changes every year, and the course may be repeated for credit.

Terms Offered: Spring

Prerequisite(s): Either HGEN 47100 or both STAT 24400 and 24500. Students without these prerequisites may enroll on a P/ NP basis with consent of the instructor.

#### STAT 35700. Epidemiologic Methods. 100 Units.

This course expands on the material presented in "Principles of Epidemiology," further exploring issues in the conduct of epidemiologic studies. The student will learn the application of both stratified and multivariate methods to the analysis of epidemiologic data. The final project will be to write the "specific aims" and "methods" sections of a research proposal on a topic of the student's choice.

Instructor(s): B. Chiu Terms Offered: Winter

Prerequisite(s): PBHS 30700 or PBHS 30900 or PBHS 30910 AND PBHS 32400 or applied statistics courses through multivariate regression.

Equivalent Course(s): PBHS 31001

#### STAT 35800. Statistical Applications. 100 Units.

This course provides a transition between statistical theory and practice. The course will cover statistical applications in medicine, mental health, environmental science, analytical chemistry, and public policy. Lectures are oriented around specific examples from a variety of content areas. Opportunities for the class to work on interesting applied problems presented by U of C faculty will be provided. Although an overview, of relevant statistical theory will be presented, emphasis is on the development of statistical solutions to interesting applied problems.

Instructor(s): R. Gibbons Terms Offered: Autumn

Prerequisite(s): PBHS 32700/STAT 22700 or STAT 34700 or consent of instructor.

Equivalent Course(s): PBHS 33500, CHDV 32702

#### STAT 35920. Applied Bayesian Modeling and Inference. 100 Units.

Course begins with basic probability and distribution theory, and covers a wide range of topics related to Bayesian modeling, computation, and inference. Significant amount of effort will be directed to teaching students on how to build and apply hierarchical models and perform posterior inference. The first half of the course will be focused on basic theory, modeling, and computation using Markov chain Monte Carlo methods, and the second half of the course will be about advanced models and applications. Computation and application will be emphasized so that students will be able to solve real-world problems with Bayesian techniques.

Instructor(s): Y. Ji Terms Offered: TBD

Prerequisite(s): STAT 24400 and STAT 24500 or master level training in statistics.

Equivalent Course(s): PBHS 43010

#### STAT 36350. Algorithms for Sequential Estimation. 100 Units.

The course objective is to present introductory, foundational, and advanced topics in sequential parameter and state estimation. The focus of the class is on algorithms for such problems, their properties, and computations involving them but some theoretical concepts of the underlying problems will also be presented. We will cover both discrete and continuous time problems. Computations in class and for homework will be carried out in Matlab. The topics covered are: 1. Review of optimization, linear algebra, probabilistic and dynamic systems concepts. Stability. Observability. 2. Sequential parameter estimation. Constrained, linear and nonlinear methods. 3. Sequential State Estimation. Kalman Filters(KF), including unscented, extended, and ensemble KF. Adaptive and Robust Methods. Particle Filters. Algorithmic and Numerical Stability. 4. Batch State Estimation. Smoothing. The Riccati Equation. Adjoint computations for problems with long horizons. Limited Memory Methods. 5. Optimal Control and Estimation Theory (if time permits). The estimation/control duality. Calculus of variations. Differential Equation Constraints. Pontryagin Optimality Conditions. Stochastic linear quadratic Gaussian control. Course website: https://wiki.uchicago.edu/display/SE3/Sequential+Estimation+STAT+36350 Terms Offered: Not offered in 2020-2021.

Prerequisite(s): STAT 30900/CMSC 37810 or consent of instructor.

#### STAT 36600. Decision Theory. 100 Units.

This course covers statistical decision theory with examples drawn from modern high-dimensional and nonparametric estimation. Topics that will be covered include basic information theory, decision theory, asymptotic equivalence, Gaussian sequence model, sparse regression, model selection, aggregation, and large covariance matrix estimation. Lower bound techniques such as Bayes, Le Cam, and Fano's methods will be taught.

Terms Offered: Not offered in 2020-2021.

#### STAT 36700. History of Statistics. 100 Units.

This course covers topics in the history of statistics, from the eleventh century to the middle of the twentieth century. We focus on the period from 1650 to 1950, with an emphasis on the mathematical developments in the theory of probability and how they came to be used in the sciences. Our goals are both to quantify uncertainty in observational data and to develop a conceptual framework for scientific theories. This course includes broad views of the development of the subject and closer looks at specific people and investigations, including reanalyses of historical data.

Instructor(s): S. Stigler Terms Offered: Spring

Prerequisite(s): Prior statistics course

Equivalent Course(s): CHSS 32900, HIPS 25600, STAT 26700

#### STAT 36711. Data: History and Literature. 100 Units.

Data is a notion that seems to characterize our contemporary world. Digital revolutions, artificial intelligence, and new forms of management and governance all claim to be data-driven. This course traces the origins of these trends to the nineteenth century, when new statistical knowledges and literary traditions emerged. Moving across disciplinary boundaries, we will analyze the ways in which practices of observation and calculation produced data on populations, crime, and economies. Likewise, the literature of this period reflected the ways that data shaped subjective experience and cultural life: the rise of the detective novel transformed the world into a set of signs and data points to interpret, while Balzac's Human Comedy classified individuals into types. Drawing on these historical and humanistic perspectives, students will have the opportunity to measure and analyze their own lives in terms of data-as well as think critically about the effects of these knowledge practices.

Instructor(s): Alexander Campolo, Anastasia Klimchynskya Terms Offered: Autumn

Note(s): undergrads permitted with permission of instructors

Equivalent Course(s): ENGL 32011, SOCI 30518, SOCI 20518, DIGS 30016, KNOW 32011, SCTH 32011, HIPS 22011, CHSS 32011, PPHA 32011, KNOW 22011

#### STAT 36900. Applied Longitudinal Data Analysis. 100 Units.

Longitudinal data consist of multiple measures over time on a sample of individuals. This type of data occurs extensively in both observational and experimental biomedical and public health studies, as well as in studies in sociology and applied economics. This course will provide an introduction to the principles and methods for the analysis of longitudinal data. Whereas some supporting statistical theory will be given, emphasis will be on data analysis and interpretation of models for longitudinal data. Problems will be motivated by applications in epidemiology, clinical medicine, health services research, and disease natural history studies.

Instructor(s): D. Hedeker Terms Offered: Spring

Prerequisite(s): PBHS 32400/STAT 22400 or equivalent, and PBHS 32600/STAT 22600 or PBHS 32700/STAT 22700 or equivalent; or consent of instructor.

Equivalent Course(s): CHDV 32501, PBHS 33300

#### STAT 37400. Nonparametric Inference. 100 Units.

Nonparametric inference is about developing statistical methods and models that make weak assumptions. A typical nonparametric approach estimates a nonlinear function from an infinite dimensional space rather than a linear model from a finite dimensional space. This course gives an introduction to nonparametric inference, with a focus on density estimation, regression, confidence sets, orthogonal functions, random processes, and kernels. The course treats nonparametric methodology and its use, together with theory that explains the statistical properties of the methods.

Instructor(s): Staff Terms Offered: Autumn

Prerequisite(s): STAT 24400 or STAT 24410 w/B- or better is required; alternatively STAT 22400 w/B+ or better and exposure to multivariate calculus (MATH 16300 or MATH 16310 or MATH 19520 or MATH 20000 or MATH 20500 or MATH 20510 or MATH 20800) and linear algebra (MATH 19620 or MATH 20250 or STAT 24300 or equivalent). Master's students in Statistics can enroll without prerequisites.

Equivalent Course(s): STAT 27400

#### STAT 37411. Topological Data Analysis. 100 Units.

Topological data analysis seeks to understand and exploit topology when exploring and learning from data. This course surveys core ideas and recent developments in the field and will prepare students to use topology in data analysis tasks. The core of the course will include computation with topological spaces, the mapper algorithm, and persistent homology, and cover theoretical results, algorithms, and a variety of applications. Additional topics from algebraic topology, metric geometry, category theory, and quiver representation theory will be developed from applied and computational perspectives. Terms Offered: Winter

Prerequisite(s): Linear algebra, prior programming experience, exposure to graph theory/algorithms. Equivalent Course(s): CAAM 37411

#### STAT 37601. Machine Learning and Large-Scale Data Analysis. 100 Units.

This course is an introduction to machine learning and the analysis of large data sets using distributed computation and storage infrastructure. Basic machine learning methodology and relevant statistical theory will be presented in lectures. Homework exercises will give students hands-on experience with the methods on different types of data. Methods include algorithms for clustering, binary classification, and hierarchical Bayesian modeling. Data types include images, archives of scientific articles, online ad clickthrough logs, and public records of the City of Chicago. Programming will be based on Python and R, but previous exposure to these languages is not assumed.

Instructor(s): Staff Terms Offered: Spring

Prerequisite(s): CMSC 15400 or CMSC 12200 and STAT 22000 or STAT 23400, or by consent. To request enrollment in this course, please add yourself to the waitlist at <waitlist.cs.uchicago.edu>. If you do not have the prerequisites for this course and want to request permission to enroll without the prerequisites, please submit a waitlist request at <waitlist.cs.uchicago.edu>.

Note(s): The prerequisites are under review and may change. Equivalent Course(s): CMSC 25025

#### STAT 37710. Machine Learning. 100 Units.

This course provides hands-on experience with a range of contemporary machine learning algorithms, as well as an introduction to the theoretical aspects of the subject. Topics covered include: the PAC framework, Bayesian learning, graphical models, clustering, dimensionality reduction, kernel methods including SVMs, matrix completion, neural networks, and an introduction to statistical learning theory.

Terms Offered: Spring

Prerequisite(s): Consent of instructor Equivalent Course(s): CMSC 35400, CAAM 37710

#### STAT 37790. Topics in Statistical Machine Learning. 100 Units.

Topics in Statistical Machine Learning" is a second graduate level course in machine learning, assuming students have had previous exposure to machine learning and statistical theory. The emphasis of the course is on statistical methodology, learning theory, and algorithms for large-scale, high dimensional data. The selection of topics is influenced by recent research results, and students can take the course in more than one quarter.

Terms Offered: To be determined

Equivalent Course(s): CMSC 35425

#### STAT 37791. Topics in Machine Learning. 100 Units.

This course covers selected topics in dimension reduction, randomized algorithm, sparsity, convex optimization, and deep learning, with a focus on scientific computing.

Terms Offered: Spring

Prerequisite(s): Enrolled PhD or MS student in Statistics or in Computational and Applied Mathematics, or consent of instructor.

Note(s): Recommended prerequisites: STAT 30900, STAT 31015, and undergraduate probability.

#### STAT 37792. Topics in Deep Learning: Generative Models. 100 Units.

This course will be a hands on exploration of various approaches to generative modeling with deep networks. Topics include variational auto encoders, flow models, GAN models, and energy models. Participation in this course requires familiarity with pytorch and a strong background in statistical modeling. The course will primarily consist of paper presentations. Each presenter would be required to report on experiments performed with the algorithm proposed in the paper, exploring strengths and weaknesses of the methods.

Instructor(s): Y. Amit Terms Offered: Autumn

Prerequisite(s): STAT 34300, STAT 34700, STAT 34800, and STAT 37601/CMSC 25025, or STAT 37710/CMSC 35400

#### STAT 37793. Topics in Deep Learning: Discriminative Models. 100 Units.

This course will explore modern approaches to optimization, data augmentation, and domain shift for deep neural networks from both theoretical and empirical perspectives. Participation will require independent investigation with PyTorch as well as paper presentations.

Terms Offered: Winter

Prerequisite(s): STAT 37601 or STAT 37710 or consent of instructor.

#### STAT 37794. Special Topics in Machine Learning. 100 Units.

Learned emulators leverage neural networks to increase the speed of physics simulations in climate models, astrophysics, high-energy physics, and more. Recent empirical results have illustrated that these emulators can speed up traditional simulations by up to eight orders of magnitude. However, little is understood about these emulators. While it is possible that recent results are representative of what is possible in most settings, a more likely scenario is that these approaches are more effective for some simulators than others, and that learned emulators achieve strong average-case performance but fail to capture rare but important phenomena. In this graduate seminar course we will provide an overview and investigate recent literature on this topic, focusing on the following questions: 1. Introduction to learned emulators: how do they work, where have they been successful so far and what are the goals in this field? 2. Two different paradigms of learned emulation: physics vs. data driven. What are the advantages and pitfalls of each? 3. Robustness of emulation to noise: what is known so far? 4. Parameter estimation: how to handle parameter uncertainty? We will provide a list of papers covering the above topics and students will be evaluated on in-class presentations.

Instructor(s): Dana Mendelson (Math) and Rebecca Willett (CS/Stats) Terms Offered: Autumn

Prerequisite(s): Students should be familiar with a numerical programming language like Python, Julia, R, or Matlab and the content of CMSC 35400. Students should also have familiarity with the contents of MATH 27300 and MATH 27500 or similar.

Note(s): Because this is a seminar course, it will be capped at 15 students, 4 Math, 4 CS/Stats, and 7 with instructor permission.

Equivalent Course(s): CAAM 37794, MATH 37794, CMSC 35490

#### STAT 37810. Statistical Computing A. 50 Units.

This course is an introduction to statistical programming in R. Students will learn how to design, write, debug and test functions by implementing several famous algorithms in statistics such as Gibbs Sampling and Expectation Maximization. A basic familiarity with R is needed, but no prior programming experience is required. The course will also introduce students to the use of version control with Git and consider the differences and similarities between R and Python.

Terms Offered: Autumn

Prerequisite(s): Instructor consent.

#### STAT 37820. Statistical Computing B. 50 Units.

Statistical Computing B focuses on common data technology used in statistical computing and broader data science. The course takes place in the second half of the autumn quarter, after STAT 37810 (Statistical Computing A). Topics include storage and accessing of large data; basic working knowledge of relational database and its querying language SQL; introduction to distributed file system and example usage of Hadoop; Python and its applications in text analysis; access and usage of high-performance computer clusters, rudimentary parallel computing, web data access. XML and Javascript may be used occasionally. A short introduction to SAS will be given if time permits. The main computing software will be Python with some R.

Terms Offered: Autumn

Prerequisite(s): Instructor consent. STAT 37810 recommended.

#### STAT 37830. Scientific Computing with Python. 100 Units.

This course is an introduction to scientific computing using the Python programming language intended to prepare students for further computational work in courses, research, and industry. Students will learn to design, implement, and test code in Python. The course will draw examples from numerical and discrete algorithms commonly encountered in scientific computing with an emphasis on design and performance considerations. Topics will include numerical linear algebra, optimization, graph theory, data analysis, and physical simulations. The course will also introduce students to a variety of practical topics such as the use of remote resources, version control with git, commonly used libraries for scientific computing and data analysis, and using and contributing to open source and collaborative projects.

Prerequisite(s): Multivariable calculus, Linear algebra, prior programming experience (not necessarily in Python). Equivalent Course(s): CAAM 37830

#### STAT 38100. Measure-Theoretic Probability I. 100 Units.

This course provides a detailed, rigorous treatment of probability from the point of view of measure theory, as well as existence theorems, integration and expected values, characteristic functions, moment problems, limit laws, Radon-Nikodym derivatives, and conditional probabilities.

Terms Offered: Winter

Prerequisite(s): STAT 30400 or consent of instructor

#### STAT 38300. Measure-Theoretic Probability III. 100 Units.

This course continues material covered in STAT 38100, with topics that include Lp spaces, Radon-Nikodym theorem, conditional expectation, and martingale theory.

Terms Offered: Spring

Prerequisite(s): STAT 38100

#### STAT 38510. Brownian Motion and Stochastic Calculus. 100 Units.

This is a rigorous introduction to the mathematical theory of Brownian motion and the corresponding integration theory (stochastic integration). This is material that all analysis graduate students should learn at some point whether or not they are immediately planning to use probabilistic techniques. It is also a natural course for more advanced math students who want to broaden their mathematical education and to increase their marketability for nonacademic positions. In particular, it is one of the most fundamental mathematical tools used in financial mathematics (although we will not discuss finance in this course). This course differs from the more applied STAT 39000 in that concepts are developed precisely and rigorously. Terms Offered: To be determined.

Note(s): Recommended prerequisites: STAT 38300; or MATH 31200, MATH 31300, and MATH 31400; or consent of instructor.

Equivalent Course(s): MATH 38511

#### STAT 38520. Topics in Random Matrix Theory. 100 Units.

Random matrix theory (RMT) is among the most prominent subjects in modern probability theory, with applications in a wide range of disciplines (including physics, statistics, engineering, and finance). The purpose of this course is to study a broad sample of the most prominent research programs in RMT as well as their motivating applications. Main topics will include (time permitting) the moment method in RMT and its connection to combinatorics, universality, operator limits, and matrix concentration.

Terms Offered: Winter

Prerequisite(s): PhD student in Statistics or Math or Computational and Applied Mathematics or TTIC or MS student in Statistics or Computational and Applied Mathematics. Other students may enroll with consent of instructor. Note(s): Prerequisite notes: Graduate or advanced undergraduate probability theory and undergraduate linear algebra and combinatorics are recommended.

Equivalent Course(s): CAAM 38520

#### STAT 38620. Social Networks, Probability, Learning, and Game Theory. 100 Units.

This is a research oriented topic course aimed at graduate students. We will first cover some basics of social networks including structure and analysis of such networks and models that abstract their basic properties. Then we will focus on some recent research on a few selected topics/models, and aim to discuss one representative example in each of the following topics: (1) Probabilistic models and statistical learning based on empirical observation; (2) Stochastic processes (such as spread of information) and game-theoretical behavior on social networks as well as corresponding optimization problems; (3) Connections with social choices relating to collective decision making; (4) Some algorithmic aspects of networks. The students should have solid knowledge in at least two of the following areas: (1) Probability theory (either 31200-31300 or 38100-38300). (2) Statistics (either 24400-24500-24610 or 30400-30100-30210). (3) Basic knowledge in game theory and algorithms. In addition, students should be comfortable with undergraduate linear algebra as well as elementary combinatorics.

Terms Offered: Not offered in 2020-2021.

Prerequisite(s): Consent of instructor. Students need to be familiar with two out of the following three: probability (no need for measure theory)/statistics/game theory (at intro level).

#### STAT 38660. Random Planar Geometry. 100 Units.

This is a research topic course on certain aspects of random planar geometry. The two central models to be discussed are Liouville quantum gravity which arises from exponentiating a two-dimensional Gaussian free field, as well as uniform infinite planar triangulation/quadrangulation. We will mainly focus on the discrete perspectives of these models, but will also at times discuss the connections to the continuous counterparts. We will concentrate on the metric properties of these random surfaces (including geodesic distances and the electric resistances), as well as their connections to the random motion on these random surfaces.

Terms Offered: Not offered in 2020-2021.

Prerequisite(s): Recommended 38100/38300 sequence, or experience with measure-theoretical probability.

#### STAT 39010. Introduction to Stochastic Calculus. 50 Units.

The course starts with a quick introduction to martingales in discrete time, and then Brownian motion and the Ito integral are defined carefully. The main tools of stochastic calculus (Ito's formula, Feynman-Kac formula, Girsanov theorem, etc.) are developed. The treatment includes discussions of simulation and the relationship with partial differential equations. Some applications are given to option pricing, but much more on this is done in other courses. The course ends with an introduction to jump process (Levy processes) and the corresponding integration theory.

Terms Offered: Winter

Prerequisite(s): Consent of instructor.

Equivalent Course(s): FINM 34510

#### STAT 39800. Field Research. 300.00 Units.

This Summer Quarter course offers graduate students in the Statistics Department the opportunity to apply statistics knowledge that they have acquired to a real industry or business situation. During the summer quarter in which they are registered for the course, students complete a paid or unpaid internship of at least six weeks. Prior to the start of the work experience, students secure faculty consent for an independent study project to be completed during the internship quarter. Terms Offered: Summer only

Prerequisite(s): Masters or PhD student in Statistics or Consent of instructor and faculty advisor.

#### STAT 39900. Masters Seminar: Statistics. 300.00 Units.

This course is for Statistics Master's students to carry out directed reading or guided work on topics related to their Master's papers.

Prerequisite(s): Masters or PhD student in Statistics

#### STAT 40100. Reading/Research: Statistics. 300.00 Units.

This course allows doctoral students to receive credit for advanced work related to their dissertation topics. Students register for one of the listed faculty sections with prior consent from the respective instructor. Students may work with faculty from other departments; however, they still must obtain permission from and register with one of the listed faculty members in the Department of Statistics.

Terms Offered: All quarters

Prerequisite(s): Masters or PhD student in Statistics or consent of instructor

#### STAT 41500-41600. High-Dimensional Statistics I-II.

These courses treat statistical problems where the number of variables is very large. Classical statistical methods and theory often fail in such settings. Modern research has begun to develop techniques that can be effective in high dimensions, and that can be understood theoretically. The first quarter introduces a range of statistical frameworks for finding low-dimensional structure in high-dimensional data, such as sparsity in regression, sparse graphical models, or low-rank structure. This quarter emphasizes methods for estimation and inference developed in these areas, along with theoretical analysis of their properties. The second quarter emphasizes foundational aspects of high-dimensional statistics, focusing on principles that are used across a range of problems and are likely to be relevant for methods developed in the future. Topics include "the curse of dimensionality," elements of random matrix theory, properties of high-dimensional covariance matrices, concentration of measure, dimensionality reduction techniques, and handling mis-specified models. The courses may be taken separately.

#### STAT 41500. High-Dimensional Statistics I. 100 Units.

These courses treat statistical problems where the number of variables is very large. Classical statistical methods and theory often fail in such settings. Modern research has begun to develop techniques that can be effective in high dimensions, and that can be understood theoretically. The first quarter introduces a range of statistical frameworks for finding low-dimensional structure in high-dimensional data, such as sparsity in regression, sparse graphical models, or low-rank structure. This quarter emphasizes methods for estimation and inference developed in these areas, along with theoretical analysis of their properties. The second quarter emphasizes foundational aspects of high-dimensional statistics, focusing on principles that are used across a range of problems and are likely to be relevant for methods developed in the future. Topics include "the curse of dimensionality," elements of random matrix theory, properties of high-dimensional ty be taken separately.

Terms Offered: To be determined.

Prerequisite(s): STAT 30100 and STAT 30400 and STAT 31015, or consent of instructor

#### STAT 41600. High-Dimensional Statistics II. 100 Units.

These courses treat statistical problems where the number of variables is very large. Classical statistical methods and theory often fail in such settings. Modern research has begun to develop techniques that can be effective in high dimensions, and that can be understood theoretically. The first quarter introduces a range of statistical frameworks for finding low-dimensional structure. This quarter emphasizes methods for estimation and inference developed in these areas, along with theoretical analysis of their properties. The second quarter emphasizes foundational aspects of high-dimensional statistics, focusing on principles that are used across a range of problems and are likely to be relevant for methods developed in the future. Topics include "the curse of dimensionality," elements of random matrix theory, properties of high-dimensional of metsure, dimensional covariance matrices, concentration of measure, dimensionality reduction techniques, and handling mis-specified models. The courses may be taken separately.

Terms Offered: To be determined.

Prerequisite(s): STAT 30100 or STAT 30400 or STAT 31015, or consent of instructor

#### STAT 41510. Bayesian Nonparametrics. 100 Units.

Bayesian nonparametric methods are increasingly important tools in machine learning and statistics. We will discuss nonparametric Bayesian approaches to mixture models, latent feature models, hierarchical models, network models, and high-dimensional regression models. Topics that will be covered include Dirichlet process, Chinese restaurant process, Pitman-Yor process, Indian buffet process, Gaussian process, and their computational techniques via Gibbs sampling and variational inference. Frequentist evaluations of posterior distributions will also be discussed in nonparametric and highdimensional settings.

Instructor(s): C. Gao Terms Offered: To be determined. Prerequisite(s): STAT 30200

#### STAT 41511. Topics in Robust and Semiparametric Statistics. 100 Units.

This course is about statistical estimation and inference with nuisance parameters. Examples include location estimation with unknown density, Cox proportional hazard model, low-dimensional inference in sparse regression, and robust estimation with arbitrary contamination. We will learn tangent spaces, efficient score functions, and information operators. Basic empirical process tools will also be discussed.

Terms Offered: Spring Prerequisite(s): STAT 30100

#### STAT 41520. Topics in Selective Inference. 100 Units.

This course will study the problem of selective inference where we would like to provide statistical guarantees about hypotheses or parameters whose definitions are influenced by our analysis of the same data set. Performing valid inference is challenging since we must find a way to condition on the outcome of the selection process which is not always simple to characterize. The course will discuss both recent advances and open problems in this field. Instructor(s): R. Barber Terms Offered: To be determined.

Prerequisite(s): STAT 27850/30850 or STAT 30200 or consent of instructor

#### STAT 41530. Topics in Causal Inference. 100 Units.

We will start with a light and comparative introduction of two causal inference languages: the potential outcome model and the graphical representation of causal effects. In the course, we will discuss topics including confounding, instrumental variables (IV), mediation analysis, and effective treatment allocations, with their applications in genetics and epidemiological research.

#### STAT 42600. Theoretical Neuroscience: Statistics and Information Theory. 100 Units.

This course begins with an introduction to inference and statistical methods in data analysis. We then cover the two main sections of the course: I) Encoding and II) Decoding in single neurons and neural populations. The encoding section will cover receptive field analysis (STA, STC and non-linear methods such as maximally informative dimensions) and will explore linear-nonlinear-Poisson models of neural encoding as well as generalized linear models alongside newer population coding models. The decoding section will cover basic methods for inferring stimuli or behaviors from spike train data, including both linear and correlational approaches to population decoding. The course will use examples from real data (where appropriate) in the problem sets which students will solve using MATLAB.

Prerequisite(s): Prior exposure to basic calculus and probability theory, CPNS 35500 or instructor consent. Equivalent Course(s): CPNS 35600, ORGB 42600

#### STAT 44100. Consulting In Statistics. 300.00 Units.

This seminar course is an internal training program for graduate students in Statistics. The primary goal is to expose the students to applications that involve statistical thinking and to have hands on experience on real world data. The projects are provided by researchers from the university community. Participating students form teams to work on selected projects under faculty guidance and to present their work to all student consultants and researcher clients.

#### STAT 45800. Workshop on Collaborative Research in Statistics, Computing, and Science. 100 Units.

This course aims to bring together researchers with expertise in statistics, computation, and basic sciences, to work together to produce a solution to a particular problem. The problem we will focus on is the following: how can we improve the way that statistical comparisons are performed? No knowledge of this problem is assumed: it will be introduced in full at the start of the class, together with an outline for an initial proposed approach to addressing the problem. In brief the motivation is as follows: Many new statistical methods are published without any software implementation, and without any comparisons with existing methods. Even when comparisons are made, usually the comparisons are performed by a single research group who has developed one of the methods, raising the concern that the comparison may unfairly favor this method. Indeed, this problem is almost inevitable, even if the authors are extremely fastidious: any research group will have different levels of expertise with different methods, and tend to be more effective in applying their own method. Indeed, getting a method to work well for a particular problem may in itself be a research project. On top of this, performing these kinds of comparisons is incredibly time-consuming: at a minimum one has to familiarize oneself with a range of software products, their input/ output requirements, and their various run-time options; create an infrastructure for running them; and write comparison scripts.

Terms Offered: Not offered in 2020-2021. Prerequisite(s): Consent of instructor

#### STAT 48100. Proseminar in Probability. 100 Units.

This course will explore topics of current research interest in probability theory and stochastic processes. Students will be expected to give presentations based on research articles chosen after consultation with the instructors. Terms Offered: To be determined.

Prerequisite(s): Consent of instructor

#### STAT 70000. Advanced Study: Statistics. 300.00 Units.

Advanced Study: Statistics



# The Division of the Social Sciences

#### Dean

Amanda Woodward

Deputy Dean and Master of the Collegiate Division

James Sparrow

Dean of Students

Patrick Hall

Associate Dean of Students

Kelly Therese Pollock

The Division of the Social Sciences includes the departments, committees and programs which are engaged particularly in the study of human beings in social and temporal contexts; the origins, development, and structure of institutions and ideas, and the relationships between individuals and among groups of individuals. Research and instruction, which are strongly interdisciplinary, focus on interpreting the complexity of human experience through time and explore the interactions between diverse peoples and the world in which they live.

The division welcomes as students potential researchers, scholars, and teachers, as well as those who seek in the social sciences the enrichment of their cultural preparation for the appreciation of life. The division awards the degrees of Master of Arts and Doctor of Philosophy. The division also cooperates in the undergraduate programs leading to the degree of Bachelor of Arts awarded by the College. Students seeking the Bachelor of Arts degree should consult the College's publication, *Courses and Programs of Study*.

Programs leading to the Ph.D. are offered by the Departments of Anthropology, Comparative Human Development, History, Political Science, Psychology, and Sociology, as well as the Kenneth C. Griffin Department of Economics, and the John U. Nef Committee on Social Thought, and also, the Committee on the Conceptual and Historical Studies of Science. Programs leading to the M.A. are offered by the Committee on International Relations, the Center for Middle Eastern Studies, Computational Social Science, and the Master of Arts Program in the Social Sciences (MAPSS).

#### Admission to the Division

The Division of the Social Sciences considers for admission to its graduate programs students who have a minimum of a bachelor's degree from an accredited college, or equivalent training. Students apply for admission to the division through the Office of the Dean of Students in the Division of the Social Sciences; applications are subsequently evaluated by the faculties of the various programs. Applications can be found at https://apply-ssd.uchicago.edu/apply/. Questions should be directed to ssd-admissions@uchicago.edu.

#### Degrees

#### Master of Arts

The degree is awarded for competence in a field of study, not solely for satisfactory completion of a set number of courses.

The general requirements for the master's degree are as follows:

- 1. In programs that recommend only the awarding of the master's degree, at least nine courses and three quarters of residence in the division. In departments and committees that recommend the awarding of the Ph.D. degree, at least three full time quarters.
- 2. Completion of the program of study and other requirements prescribed by the student's department or committee.
- 3. In almost all departments and committees, presentation of an acceptable master's research paper or thesis.
- 4. In certain departments and committees, satisfactory performance on a final comprehensive examination.
- 5. Any additional requirements set by the separate departments or committees.

#### Doctor of Philosophy

The degree of Doctor of Philosophy is awarded for mastery of subject matter and demonstration of research capacity, not solely for completion of a set number of requirements.

The general requirements for the Doctor of Philosophy degree are:

1. Students must complete the requirements set by their particular academic programs (including courses, seminars, research work, and examinations). These requirements vary from program to program within the division.

Portions of the program requirements may sometimes be satisfied on the basis of equivalent work done at other institutions or in other units of the University. The student's department or committee determines whether previously earned academic credit and degrees will be accepted as partial fulfillment of program requirements.

- Admission to candidacy at least eight months before the date the degree is to be conferred. The student is admitted to candidacy by the dean of students upon the recommendation of the student's department or committee after completion of the following requirements:
  - a. Completion of the work required for a master's degree even if the formal M.A. degree is not taken.
  - b. Successful performance on the departmental preliminary examination(s), if required. Ordinarily, this is taken after the completion of the first year of work.
  - c. Approval by the department or committee of a dissertation proposal and a program of research.
  - d. Satisfactory completion of any additional requirements set by the separate departments or committees.
- Doctoral dissertation. The candidate is expected to submit to the department or committee an acceptable doctoral dissertation which makes an original contribution to knowledge within the field of inquiry. This step is necessary before the final oral examination is scheduled.
- 4. The final oral examination and defense of the dissertation.



### MA in Computational Social Science

#### Faculty Director

James Evans, Sociology

Executive Committee

- Luc Anselin, Sociology
- Marc G. Berman, Psychology
- Kathleen Cagney, Sociology
- Guanglei Hong, Comparative Human Development
- Ali Hortaçsu, Economics
- Leslie M. Kay, Psychology
- Howard Nusbaum, Psychology
- John Padgett, Political Science
- Stephen W. Raudenbush, Sociology

#### Affiliated Faculty

- Stéphane Bonhomme, Economics
- Magne Mogstad, Economics
- Anna Mueller, Comparative Human Development
- James T. Sparrow, History
- Alessandra Voena, Economics
- Daniel Yurovsky, Psychology

Associate Director and Senior Lecturer

Rick Evans

Assistant Director and Assistant Instructional Professor

Benjamin Soltoff

Assistant Instructional Professors

- Jon Clindaniel
- Diogo Ferrari
- Philip Waggoner

Preceptors

- Joshua Mausolf, Senior Preceptor
- Shilin Jia
- Sanja Miklin

Managing Director

Chad Cyrenne

Director of Career Services and Senior Program Development Officer

Shelly Robinson

Career Preparation and Programming Manager

Gözde Erdeniz

Employer Relations Manager

De'Neatria Robinson

Student Affairs Administrator

Vanessa Carey

Alumni, Staff, and Student Programming Administrator

Vanessa Carey

#### **Business Administrator**

#### Tekeisha Yelton-Hunter

#### General Information

The Master of Arts in Computational Social Science is a two-year program of graduate study. It has a structured curriculum, with a total of 18 required and elective courses tailored to the disciplinary track a student follows. Students submit an article-length MA thesis in their second year, after completing a three-quarter research commitment working directly with a member of the university Faculty.

The program aims to produce leading social scientists in each of our core social science fields – economics, sociology, political science, psychology, history, and anthropology – producing competitive PhD applicants, well-trained in computational approaches, who have mastered the research and analytical skills necessary to make important contributions.

Students receive close mentorship from the program's Faculty Director, academic staff, and members of our Executive and Affiliated Faculty.

They receive full professional support from our Director of Career Services, with biweekly workshops, career planning, and employer recruitment.

Finally, all MA students may participate in an optional summer practicum between their first and second year, with internships drawn from academic and professional organizations. International students have three years of STEM work eligibility after they graduate.

#### Program Requirements and Course Work

Students submit an article-length MA thesis in their second year, after completing a three-quarter research commitment working directly with a member of our Faculty.

The courses are selected with the advice of our academic staff, and follow different disciplinary tracks, tailored to the research commitments of each student.

In their first year, all students take a three course core: Perspectives on Computational Analysis, Perspectives on Computational Modeling, and Perspectives on Computational Research.

Most take a three course sequence on Computer Science with Applications (with more advanced courses for students with prior exposure, and an optional sequence for psychology concentrators).

The remaining three courses vary, and depend on the student's prior training and disciplinary path. Priority will go to any needed courses in statistics, linear algebra, or advanced math in particular disciplines (e.g. real analysis in economics). If those requirements are met, the student will take up to three social science electives in their area of research.

In their second year, all students take three advanced courses in computational methods, tailored to their disciplinary interest. They complete three social science electives, in their area of research. And they take three graduate courses that the students may select, from any university department or professional school, where the student meets the minimum prerequisites. Alternatively, students may take the MA Research Commitment, a three course sequence producing an MA thesis modeled on a professional journal article, as their third course.

Outside of their coursework, all MA students are expected to attend our weekly Computation Workshop, where advanced scholars and invited guests present drafts of their research for critique and discussion.

#### Admission

MACSS applicants must meet the formal requirements of the Graduate Social Sciences Division.

All applicants must submit GRE scores, except for those applying for the joint BA/MA degree.

All financial aid is merit-based, and MACSS offers partial and full tuition scholarships at the time of admission.

Joint BA/MA applicants pay graduate tuition rates, and are eligible to receive the same aid they had in the College.

Applicants from non-English speaking countries must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Some non-native English speakers are exempt, if they have studied in an English language University. Please contact our Dean of Students Office with any questions: ssd-admissions@uchicago.edu

#### How to Apply

The Application for Admission and Financial Aid, with instructions and deadlines, is available online at: https://apply-ssd.uchicago.edu/apply/.

For additional information about our program, please contact Vanessa Carey, our Student Affairs Administrator, at 773-702-8301 or carey1@uchicago.edu.

Please also visit our website: https://macss.uchicago.edu (https://macss.uchicago.edu/)

#### Courses

#### MACS 30000. Perspectives on Computational Analysis. 100 Units.

Massive digital traces of human behavior and ubiquitous computation have both extended and altered classical social science inquiry. This course surveys successful social science applications of computational approaches to the representation of complex data, information visualization, and model construction and estimation. We will reexamine the scientific method in the social sciences in context of both theory development and testing, exploring how computation and digital data enables new answers to classic investigations, the posing of novel questions, and new ethical challenges and opportunities. Students will review fundamental research designs such as observational studies and experiments, statistical summaries, visualization of data, and how computational opportunities can enhance them. The focus of the course is on exploring the wide range of contemporary approaches to computational social science, with practical programming assignments to train with these approaches.

Instructor(s): Benjamin Soltoff Terms Offered: Autumn

#### MACS 30100. Perspectives on Computational Modeling. 100 Units.

Students are often well trained in the details of specific models relevant to their respective fields. This course presents a generic definition of a model in the social sciences as well as a taxonomy of the wide range of different types of models used. We then cover principles of model building, including static versus dynamic models, linear versus nonlinear, simple versus complicated, and identification versus overfitting. Major types of models implemented in this course include linear and nonlinear regression, machine learning (e.g., parametric, Bayesian and nonparametric), agent-based and structural models. We will also explore the wide range of computational strategies used to estimate models from data and make statistical and causal inference. Students will study both good examples and bad examples of modeling and estimation and will have the opportunity to build their own model in their field of interest.

Instructor(s): Rick Evans Benjamin Soltoff Terms Offered: Winter Prerequisite(s): MACSS students have priority. Others admitted with instructor consent.

#### MACS 30124. Computational Analysis of Social Processes. 100 Units.

How does the human social and cultural world develop and change? The focus of this course is on introducing computational methods for studying the evolution of phenomena over time, alongside relevant theories for interpreting these processes from fields such as History, Anthropology, and Sociology. Students will gain hands-on experience using the Python programming language to harness a diverse set of digital data sources, ranging from satellite images to social media posts. Additionally, they will learn to employ computational approaches, such as simulation and dynamic topic modeling, to study social processes over a variety of different time scales: from the short term (changes in social media network structures over the course of the past week), to longer term (the evolution of English language discourse over the past 100 years), to deep time scales (long-term settlement pattern dynamics over the past 10,000 years).

Instructor(s): Jon Clindaniel Terms Offered: Autumn

Equivalent Course(s): MAPS 30124

#### MACS 30133. Machine Learning for Political Analysis. 100 Units.

This is an intermediate-to-advanced introduction to the mathematical and computational aspects of the core statistical and machine learning techniques. The goal is to equip students with a knowledge of the theoretical and practical aspects of four groups of machine learning methods which are widely used in applied research: (1) dimension reduction (PCA, MDS, and their extensions) (2) classification methods (SVM, Bayes classifiers, and other classification methods) (3) clustering procedures and density estimation (K-means, FMM, non- and semi-parametric Bayesian methods) (4) categorical data analysis (with brief introduction to probabilistic graphical models). The course includes applications in Political Science, such as FMM to estimate fraud in elections, PCA to construct indices to measure democracy, and text classification. Instructor(s): Diogo Ferrari Terms Offered: Spring

Prerequisite(s): Proficiency in R or Python; basic calculus; probability and statistics (regression, expectation, variance), basic linear algebra

Equivalent Course(s): MAPS 30133

#### MACS 30150. Perspectives on Computational Modeling for Economics. 100 Units.

Students are often well trained in the details of specific models relevant to their respective fields. This course presents a generic definition of a model in the social sciences as well as a taxonomy of the wide range of different types of models used. We then cover principles of model building, including static versus dynamic models, linear versus nonlinear, simple versus complicated, and identification versus overfitting. Major types of models implemented in this course include linear and nonlinear regression, machine learning (e.g., parametric, Bayesian and nonparametric), agent-based and structural models. We will also explore the wide range of computational strategies used to estimate models from data and make statistical and causal inference. Students will study both good examples and bad examples of modeling and estimation and will have the opportunity to build their own model in their field of interest. This course will be specifically tailored to students concentrating in Economics.

Instructor(s): R. Evans Terms Offered: Winter Note(s): MACSS students have priority.

#### MACS 30200. Perspectives on Computational Research. 100 Units.

This course focuses on applying computational methods to conducting social scientific research through a student-developed research project. Students will identify a research question of their own interest that involves a direct reference to social scientific theory, use of data, and a significant computational component. The students will collect data, develop, apply, and interpret statistical learning models, and generate a fully reproducible research paper. We will identify how computational methods can be used throughout the research process, from data collection and tidying, to exploration, visualization and modeling, to the final communication of results. The course will include modules on theoretical and practical considerations, including topics such as epistemological questions about research design, writing and critiquing papers, and additional computational tools for analysis.

Instructor(s): Philip Waggoner Terms Offered: Spring

Prerequisite(s): MACSS students have priority. Others admitted with instructor consent.

#### MACS 30250. Perspectives on Computational Research for Economics. 100 Units.

This course focuses on scaling up computational approaches to social science analysis and modeling with big data in context of opportunities afforded by high performance and cloud computing. We will begin by exploring various data structures encountered in social science research, how to deal with large or complex data storage and streaming data, and how to factor considerations of computational complexity into their analyses. We will also study social science applications of parallel computing, both on stand-alone machines and in supercomputing environments, to carry out complex computations. Students will learn to carry out parallel I/O and parallel computation on their own machines and on a cluster. We will also address API construction and access, and explore cloud configurations for social science research designs. We will also help students construct web-based outward facing data, analysis and visualization portals. Students will efficiently gather, structure, perform and present analysis on large-scale social science data. This course will be specifically tailored to students concentrating in Economics.

Instructor(s): R. Evans Terms Offered: Spring

Prerequisite(s): MACSS students have priority.

#### MACS 30301. Introduction to Bayesian Statistics. 100 Units.

The goal of this course is to give students an overview of the theory and methods for data analyses using the Bayesian paradigm. Topics include: (1) foundations of Bayesian inference, (2) development of Bayesian models and prior choices (3) analytical and simulation techniques for posterior estimation (4) model choice and diagnostics (5) sensitivity analysis, (6) an introduction to Monte Carlo Markov Chain (MCMC) simulations (7) intro to commonly used Bayesian estimation packages (R/JAGS/Bugs) (8) application of Bayesian analysis in real world and Political Science problems.

Equivalent Course(s): MAPS 30301

#### MACS 30501. Computational Anthropology. 100 Units.

This course exposes students to the methods and data of Computational Anthropology-the systematic, computational study of the human species, past and present. Such methods have been essential in recent years for simulating human behavior in different cultures and economic systems, uncovering ancient demographic changes that still have an influence into the present day, preserving cultural heritage, and much more. Anthropological data allows social science researchers to evaluate long term trends in the human condition, across a variety of cultures, with a unique combination of material, textual, and structured database data. Students will have the opportunity to evaluate state of the art approaches in computational anthropology and learn how to apply these methods to their own social scientific research agendas using open anthropological datasets and the Python programming language. Instructor(s): Jonathan Clindaniel Terms Offered: Winter

MACS 33000. Computational Math Camp. 000 Units.

#### MACS 33001. Mathematics and Statistics for Computational Social Science. 100 Units.

This course aims to provide students with a core understanding of mathematics and statistics for computational social science. Students who complete this course should be prepared to take more advanced computational methods courses. Completion of the Computational Math Camp in September is recommended, but not required. Instructor(s): Staff Terms Offered: Autumn

#### MACS 34000. Data Mining and Data Visualization for the Social Sciences. 100 Units.

This course introduces students to techniques for extracting and communicating knowledge from data. In the first half, students study visualizations as a method for summarizing information and reporting analysis and conclusions in a compelling format. This introduces the ideas and methods of data visualization, with emphasis on both why you are doing something as well as how to produce optimal visualizations. In the second half, students are introduced to the rapidly developing world of data mining. Focus will be on knowledge discovery and pattern recognition in the context of social science problem solving. From partitioning and anomaly detection to text clustering, high-dimensional mining, and deep learning, students will be given a thorough introduction to prominent techniques for exploring and discovering patterns in data. Throughout the course, class sessions will combine lecture, coding challenges, and computational problem solving to encourage wide engagement with the techniques using the R programming language. Equivalent Course(s): MACS 24000

#### MACS 35000. MA Research Commitment. 100 Units.

Student Initiated research and writing for the MA research component. Instructor(s): James Evans Terms Offered: Autumn Spring Winter

#### MACS 35001. Structured MA Research Commitment. 100 Units.

Student initiated research and writing for the MA research component. Instructor(s): James Evans Terms Offered: Autumn

#### MACS 40000. Economic Policy Analysis with Overlapping Generation Models. 100 Units.

This course will study economic policy questions ideally addressed by the overlapping generations (OG) dynamic general equilibrium framework. OG models represent a rich class of macroeconomic general equilibrium model that is extremely useful for answering questions in which inequality, demographics, and individual heterogeneity are important. OG models are used extensively by the Joint Committee on Taxation, Congressional Budget Office, and Department of the Treasury. This course will train students how to set up and solve OG models. The standard nonlinear global solution method for these models--time path iteration--is a fixed point method that is similar to but significantly different from value function iteration. This course will take students through progressively richer versions of the model, which will include endogenous labor supply, nontrivial demographics, bequests, stochastic income, multiple industries, non-balanced government budget constraint, and household tax structure.

Instructor(s): Rick Evans Terms Offered: Autumn

#### MACS 40100. Big Data and Society. 100 Units.

The massive explosion of information produced by computers and sophisticated computational methods capable of harnessing this data to generate inferences has led to an increasingly data-driven society. Businesses, governments, and individuals seek to leverage this data to develop and market products, formulate policy, and improve the human condition. Computational approaches to decision making have become increasingly prevalent in domains such as criminal justice, education, employment, finance, and politics. While decision making based on data mining and algorithms has the capacity to improve society, critics argue that these approaches strengthen socioeconomic class divisions, constitute an invasion of privacy, or violate the civil rights of minority groups. This course will survey some of the major uses of big data in society and assess the potential ethical, moral, and legal implications of these models.

Instructor(s): B. Soltoff Terms Offered: Autumn

#### MACS 40200, Structural Estimation, 100 Units,

Structural estimation refers to the estimation of model parameters by taking a theoretical model directly to the data. (This is in contrast to reduced form estimation, which often entails estimating a linear model that is either explicitly or implicitly a simplified, linear version of a related theoretical model). This class will survey a range of structural models, then teach students estimation approaches including the generalized method of moments approach and maximum likelihood estimation. We will then examine the strengths and weaknesses of both approaches in a series of examples from the fields of economics, political science, and sociology. We will also learn the simulated method of moments approach. We will explore applications across the social sciences.

Instructor(s): Richard Evans Terms Offered: Winter

Prerequisite(s): MACSS students have priority. Others admitted with instructor consent.

#### MACS 40236. Panel Data Spatial Econometrics. 100 Units.

This course covers econometric methods specifically geared to deal with the presence of spatial dependence and spatial heterogeneity in panel data models, i.e., models based on data with both a cross-sectional and time series dimension. Such data are increasingly common in many areas of empirical social science research. The main objectives of the course are to gain insight into the way spatial effects can be incorporated into panel data regression model specifications, what are the proper methods to carry out specification tests and to estimate such models, and how the results should be interpreted in terms of the implied dynamics across space and over time. Special attention is paid to the application to spatial models of generic statistical paradigms, such as fixed and random effects, maximum likelihood and quasi-maximum likelihood estimation, the generalized method of moments, and semi-parametric estimation. An important aspect of the course is an emphasis on computation and leveraging open source software tools such as R and Python to carry out estimation and simulation.

Instructor(s): L. Anselin Terms Offered: Spring

Prerequisite(s): SOCI 40217, GEOG 40217, MACS 55000(Spatial Regression Analysis) strongly recommended Equivalent Course(s): SOCI 40236

#### MACS 40300. Open Research Methods. 100 Units.

The purpose of this course is to give students experience in the broad set of skills and tools for managing, collaborating on, and contributing to open source research projects. Transparency and replicability of research have received renewed emphasis in recent years due to the increased prevalence and sophistication of empirical and computational methods as well as the increased availability of large high frequency data sources. This course focuses on the open source programming languages of Python and R, but the principles could be applied to projects using any language. The course will present the common open source software development workflow as an efficient structure for collaborative academic research. We will learn Git and GitHub basic tools and methods. We will practice multiple levels of documentation ranging from incode docstrings to full PDF and HTML documentation tools. Students will implement continuous integration testing and regression testing in their own open source repositories. And students will learn how to set an environment with specific library and package versions. We will also discuss methods for anonymizing propietary data or creating synthetic datasets that can be used by the general public.

Instructor(s): R. Evans Terms Offered: Autumn Spring

#### MACS 40400. Computation and the Identification of Cultural Patterns. 100 Units.

Culture is increasingly becoming digital, making it more and more necessary for those in both academia and industry to use computational strategies to effectively identify, understand, and (in the case of industry) capitalize on emerging cultural patterns. In this course, students will explore interdisciplinary approaches for defining and mobilizing the concept of "culture" in their computational analyses, drawing on relevant literature from the fields of Anthropology, Psychology and Sociology. Additionally, they will receive hands-on experience applying computational approaches to identify and analyze a wide range of cultural patterns using the Python programming language. For instance, students will learn to identify emerging social movements using social media data, predict the next fashion trends, and even decipher ancient symbols using archaeological databases.

Instructor(s): Jonathan Clindaniel Terms Offered: Autumn

Prerequisite(s): No previous coding experience required. A Python boot camp will be held at the beginning of the quarter to teach the coding skills necessary to succeed in the course. Open to Advanced Undergraduates with Instructor Permission. Equivalent Course(s): MAPS 40401, PSYC 40460, CHDV 40404

#### MACS 40600. More Computing for the Social Sciences. 100 Units.

This is an applied course for social scientists expanding on computational approaches to reproducible research via programming. It extends on the training in MACS 30500 to cover intermediate and advanced techniques for core data science tasks such as data wrangling, visualization, modeling, and communication. Exact topics will vary, but may include items such as interactive visualizations and web applications, package and API development, functional programming, code profiling and optimization, etc.

Instructor(s): Benjamin Soltoff Terms Offered: Spring Prerequisite(s): MACS 30500

#### MACS 40700. Data Visualization. 100 Units.

Social scientists frequently wish to convey information to a broader audience in a cohesive and interpretable manner. Visualizations are an excellent method to summarize information and report analysis and conclusions in a compelling format. This course introduces the theory and applications of data visualization. Students will learn techniques and methods for developing rich, informative and interactive, web-facing visualizations based on principles from graphic design and perceptual psychology. Students will practice these techniques on many types of social science data, including multivariate, temporal, geospatial, text, hierarchical, and network data. These techniques will be developed using a variety of software implementations such as R, ggplot2, D3, and Tableau.

Instructor(s): Benjamin Soltoff Terms Offered: Spring

#### MACS 41200. Advanced Machine Learning. 100 Units.

This is an intermediate-to-advanced introduction to the mathematical and computational aspects of the core statistical and machine learning techniques. The goal is to equip students with a knowledge of the theoretical and practical aspects of four groups of machine learning methods which are widely used in applied research: (1) dimension reduction (PCA, MDS, and their extensions) (2) classification methods (SVM, Bayes classifiers, and other classification methods) (3) clustering procedures (K-means, FMM, non- and semi-parametric Bayesian methods) (4) categorical data analysis (with brief introduction to probabilistic graphical models). The course includes some applications in Political Science, such as FMM to estimate fraud in elections, PCA to construct indices to measure democracy, and text classification. Instructor(s): Diogo Ferrari Terms Offered: Spring

#### MACS 41300. Computational Methods for Comparative Politics. 100 Units.

Comparative Politics is one of the most traditional areas in Political Science. In this course, students are exposed to some of the methodological challenges of studying politics from a comparative perspective. The course draws on canonical substantive and methodological debates in Comparative Politics and discusses some modern machine learning, latent variable analysis, and computational methods to overcome some of those difficulties. With instructor guidance, students will have the opportunity to develop their project and apply computational methods to study a topic of their choice in comparative politics.

Instructor(s): Diogo Ferrari Terms Offered: Spring

#### MACS 41500. MA Research Methods. 100 Units.

This in-person course will foster the development of the students' scholarship through regular interaction with their preceptors. In this course, students will work with preceptors to both synthesize the individualized coursework into a cohesive curriculum and to plan and execute the MA thesis, from choosing research questions, selecting an appropriate research design, elaborating their chosen methodology, conducting research, and writing up their results. Instructor(s): John Hansen, Michael Albertus, James Evans Terms Offered: Autumn Spring Winter Equivalent Course(s): MAPS 41500, INRE 41500

#### MACS 51000. Introduction to Causal Inference. 100 Units.

This course is designed for graduate students and advanced undergraduate students from the social sciences, education, public health science, public policy, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The goal of this course is to equip students with basic knowledge of and analytic skills in causal inference. Topics for the course will include the potential outcomes framework for causal inference; experimental and observational studies; identification assumptions for causal parameters; potential pitfalls of using ANCOVA to estimate a causal effect; propensity score based methods including matching, stratification, inverse-probability-of-treatment-weighting (IPTW), marginal mean weighting through stratification (MMWS), and doubly robust estimation; the instrumental variable (IV) method; regression discontinuity design (RDD) including sharp RDD and fuzzy RDD; difference in difference (DID) and generalized DID methods for cross-section and panel data, and fixed effects model. Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 is a prerequisite. This course is a prerequisite for "Advanced Topics in Causal Inference" and "Mediation, moderation, and spillover effects." Instructor(s): G. Hong Terms Offered: Winter

Prerequisite(s): Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 Note(s): CHDV Distribution: M; M

Equivalent Course(s): PLSC 30102, CHDV 30102, SOCI 30315, STAT 31900, PBHS 43201

#### MACS 52000. Advanced Topics in Causal Inference. 100 Units.

This course provides an in-depth discussion of selected topics in causal inference that are beyond what are covered in the introduction to causal inference course. The course is intended for graduate students and advanced undergraduate students who have taken the intro course and want to extend their knowledge in causal inference. Topics include (1) alternative matching methods, randomization inference for testing hypothesis and sensitivity analysis; (2) marginal structural models and structural nested models for time-varying treatment; (3) Rubin Causal Model (RCM) and Heckman's scientific model of causality; (4) latent class treatment variable; (5) measurement error in the covariates; (6) the M-estimation for the standard error of the treatment effect for the use of IPW; (7) the local average treatment effect (LATE) and its problems, sensitivity analysis to examine the impact of plausible departure from the IV assumptions, and identification issues of multiple/one treatments; (8) Multi-level data for treatment evaluation for multiple/one treatments; (9) Nonignorable missingness and informative censoring issues.

Instructor(s): G. Hong, K. Yamaguchi Terms Offered: Spring. Not being offered in 2020/2021

Prerequisite(s): Intermediate Statistics such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 and Introduction to causal inference or their equivalent are prerequisites.

Note(s): CHDV Distribution: M\*

Equivalent Course(s): CHDV 40102, SOCI 40202

#### MACS 54000. Introduction to Spatial Data Science. 100 Units.

Spatial data science consists of a collection of concepts and methods drawn from both statistics and computer science that deal with accessing, manipulating, visualizing, exploring and reasoning about geographical data. The course introduces the types of spatial data relevant in social science inquiry and reviews a range of methods to explore these data. Topics covered include formal spatial data structures, geovisualization and visual analytics, rate smoothing, spatial autocorrelation, cluster detection and spatial data mining. An important aspect of the course is to learn and apply open source software tools, including R and GeoDa.

Instructor(s): L. Anselin and M. Kolak Terms Offered: Autumn

Prerequisite(s): STAT 22000 (or equivalent), familiarity with GIS is helpful, but not necessary Equivalent Course(s): GEOG 30500, ENST 20510, GEOG 20500, SOCI 20253, SOCI 30253

#### MACS 55000. Spatial Regression Analysis. 100 Units.

This course covers statistical and econometric methods specifically geared to the problems of spatial dependence and spatial heterogeneity in cross-sectional data. The main objective of the course is to gain insight into the scope of spatial regression methods, to be able to apply them in an empirical setting, and to properly interpret the results of spatial regression analysis. While the focus is on spatial aspects, the types of methods covered have general validity in statistical practice. The course covers the specification of spatial regression models in order to incorporate spatial dependence and spatial heterogeneity, as well as different estimation methods and specification tests to detect the presence of spatial autocorrelation and spatial heterogeneity. Special attention is paid to the application to spatial models of generic statistical paradigms, such as Maximum Likelihood, Generalized Methods of Moments and the Bayesian perspective. An important aspect of the course is the application of open source software tools such as R, GeoDa and PySal to solve empirical problems. Instructor(s): P. Amaral Terms Offered: Spring

Equivalent Course(s): SOCI 40217, GEOG 40217

#### MACS 60000. Computational Content Analysis. 100 Units.

A vast expanse of information about what people do, know, think, and feel lies embedded in text, and more of the contemporary social world lives natively within electronic text than ever before. These textual traces range from collective activity on the web, social media, instant messaging and automatically transcribed YouTube videos to online transactions, medical records, digitized libraries and government intelligence. This supply of text has elicited demand for natural language processing and machine learning tools to filter, search, and translate text into valuable data. The course will survey and practically apply many of the most exciting computational approaches to text analysis, highlighting both supervised methods that extend old theories to new data and unsupervised techniques that discover hidden regularities worth theorizing. These will be examined and evaluated on their own merits, and relative to the validity and reliability concerns of classical content analysis, the interpretive concerns of qualitative content analysis, and the interactional concerns of conversation analysis. We will also consider how these approaches can be adapted to content beyond text, including audio, images, and video. We will simultaneously review recent research that uses these approaches to develop social insight by exploring (a) collective attention and reasoning through the content of communication; (b) social relationships through the process of communication; and (c) social state

Instructor(s): James Evans Terms Offered: Spring Equivalent Course(s): SOCI 40133, CHDV 30510

#### MACS 95000. Computation MA Internship. 000 Units.

All MACS students participating in the The Computational Social Science Internship Program will be required to enroll in this non-credit summer quarter field research course. The course will appear on the transcript, and will be evaluated on a pass/fail basis, in consultation with the employer.

Instructor(s): James Evans Terms Offered: Summer



# Master of Arts Program in the Social Sciences

	Courses
	Faculty Director
•	John Mark Hansen
	Executive Committee
•	Ralph A. Austen (Emeritus), History
•	Elisabeth Clemens, Sociology
•	Michael P. Conzen, Geographical Studies
•	Chad Cyrenne (Ex officio), Social Sciences
•	Jane Dailey, History
•	Judith B. Farquhar, Anthropology
•	Morris Fred (Ex officio), Social Sciences
•	Rachel Fulton-Brown, History
•	Susan Goldin Meadow, Psychology, Comparative Human Development
•	Ramón Gutiérrez, History
•	Gary Herrigel, Political Science
•	Alan L. Kolata, Anthropology
•	John J. MacAloon, Social Sciences
•	Martha K. McClintock, Psychology, Comparative Human Development
•	Omar McRoberts, Sociology
•	Howard Nusbaum, Psychology, Computational Neuroscience
•	Nathan Tarcov, Political Science, Social Thought
•	Richard P. Taub (Emeritus), Sociology, Comparative Human Development
	Managing Director
•	Chad Cyrenne
	Associate Director

Darcy Heuring, History

Assistant Director and Assistant Instructional Professor

Samantha Fan, Psychology

#### Senior Lecturer

Victor Lima, Economics

#### Assistant Instructional Professor

Min Sok Lee, Economics

#### Lecturers

Morrie Fred, Anthropology

#### Earl S. Johnson Instructors

- Cate Fugazzola, Sociology
- Amit Anshumali, Sociology
- John McCallum, History
- Ella Wilhoit, Anthropology
- Tori Gross, Anthropology
- Dawn Herrera, Political Science

Director of Career Services and Senior Program Officer

Shelly Robinson

Career Preparation & Programming Manager

Gözde Erdeniz

Employer Relations Manager

• De'Neatria Robinson

Student Affairs Administrator

- E.G. Enbar
  - Administrative and Events Program Specialist
- Vanessa Carey

Business Administrator

Tekeisha Yelton-Hunter

#### General Information

The MA Program in the Social Sciences (MAPSS) is an intense, intellectually transformative one-year program. Students concentrate in Anthropology, Economics, History, Political Science, Psychology, and Sociology. Some pursue interdisciplinary work in Comparative Human Development, Social Thought, or Conceptual and Historical Studies of Science. Others may specialize in one of our 6 concentrations: Quantitative Methods for Social Analysis, Education and Society, Gender and Sexuality Studies, Computational Social Science, Latin American & Caribbean Studies, and Geographic Information Science.

All MAPSS students take nine graduate courses, selected from all UChicago departments and professional schools. They work directly with UChicago faculty on the MA thesis.

Students are assisted in their course selections, and offered weekly mentorship for their research, by doctoral student preceptors and by MAPSS senior staff.

MAPSS is highly selective for admission and offers substantial merit aid.

We offer preeminent training for those aspiring to go on for funded PhD study in the social sciences. Each year over 100 of our graduates do so successfully, at a 90% placement rate. More than 100 MAPSS graduates are pursuing the PhD at UChicago alone.

MAPSS also offers exceptional of career preparation with our in-house Career Services Office. Our programming includes one-on-one advising, regular workshops, on-campus recruitment, and visits by leading alumni who provide mentorship in a variety of fields. Oner 90% of our graduates accept full-time or part-time employment or are in pursuit of a PhD 6 months after graduation.

Each student works closely with program directors, our senior academic staff, and an assigned preceptor, designing a customized curriculum, defining an area of scholarly research, and writing the MA thesis.

A joint BA/MA program is also available.

#### Program Requirements and Course Work

MAPSS students must complete our core course, satisfy our methods requirement, and earn a minimum B as their cumulative grade over their nine graduate courses. Students must also submit a faculty-approved MA thesis.

#### Course Work

Our core course, "Perspectives in Social Science Analysis," examines the theoretical/methodological approaches that have been broadly influential across the social sciences. It features a mix of foundational and contemporary texts. The course furnishes a common vocabulary, and core analytical skills, that help students understand how their research commitments have been shaped by past investigators.

Because Perspectives is offered only in the Autumn Quarter, students may not begin the MAPSS program at any other time of year.

Students must also fulfill a methods requirement. MAPSS offers courses in historical, ethnographic, statistical, and interpretive methods. Dozens of other methods courses, from network analysis, game theory, involved interviewing, comparative case study, rational choice, comparative historical analysis, experimental methods, organizational analysis, survey research, and statistical methods are offered across campus each year.

Courses are selected with the guidance of a MAPSS preceptor. Students register for three graduate classes per quarter, beginning in the Fall and continuing through the Winter and Spring. They take graduate courses in all departments and professional schools of the University.

#### The Master's Thesis

Students write an article-length MA thesis under the supervision of any UChicago faculty member. Their preceptor provides weekly assistance, and serves as the paper's second reader.

The preceptor organizes and leads an MA proposal workshop in the Winter.

Both the faculty sponsor and the preceptor provide feedback on the proposal, the first draft, and give a written evaluation and letter grade for the final submission.

Approximately 20% of MAPSS students graduate in June, and 80% in August.

#### Sample Thesis Topics

Some recent MA paper titles include:

'Class or Group Identity? Rethinking the 1967-69 Ocean Hill-Brownsville School Strikes for Left Coalitional Politics'

'Poisoned Futures: Pesticide Usage and Agrarian Suicides in Vidarbha, India'

'Stagnant Employees: Signals of Performance Decline over Tenure Length'

'Performing at Free Street: At-Risk Adolescents' Experiences in a Dramatic Arts Program'

'Deepening Democracy or Diverting Attention? Participatory Democracy and the Community Council Movement in Venezuela'

'Pricing the Atmosphere: Commensuration and the Case of the Chicago Climate Exchange'

'Democratic Leadership in Athens and its Role in Thucydides' Political Thought'

'Impact of Rural-Electrification on Educational Outcomes: Evidence from India'

'The Socialization of Math Anxiety: The Relationship Between Early Math Talk and Later Math Attitudes'

'Capacity and the Duty to Intervene: Considerations on the Agency Problem of Humanitarian Intervention'

'Neural Activity Reflecting Affective Impact of Addressee and Emotional Words in Speech Perception'

'Intimate Segregation: Gentrification and the New Landscape of Race'

#### Admission

MAPSS applicants must meet the formal requirements of the Graduate Social Sciences Division.

All applicants must submit GRE scores, except for those applying for the joint BA/MA degree.

All financial aid is merit-based, and MAPSS offers tuition scholarships at the time of admission.

Joint BA/MA applicants pay graduate tuition rates, and are eligible to receive the same aid they had in the College.

Applicants from non-English speaking countries must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Some non-native English speakers are exempt, if they have studied in an English language University. Please contact our Dean of Students Office with any questions: ssd-admissions@uchicago.edu

Part-time study is possible, but part-time students are not eligible for financial aid.

#### How to Apply

The Application for Admission and Financial Aid, with instructions and deadlines, is available online at: https://apply-ssd.uchicago.edu/apply/.

For additional information about our program, please contact E.G. Enbar, our Student Affairs Administrator, at 773-702-8312 or egenbar@uchicago.edu.

Please also visit our website, at: https://mapss.uchicago.edu/

#### Courses MA in Social Sciences

#### MAPS 30000. Perspectives in Social Science Analysis. 100 Units.

This course presents a set of perspectives that can be used as coordinates to map the modern social sciences. Perspectives are stances from which social thinkers see the world and explain the world. The course is meant to bring students together around a shared reading list of foundational works and exemplary research and to develop a shared vocabulary for how to discuss differences among various types of research.

Instructor(s): John Mark Hansen Terms Offered: Autumn

#### MAPS 30124. Computational Analysis of Social Processes. 100 Units.

How does the human social and cultural world develop and change? The focus of this course is on introducing computational methods for studying the evolution of phenomena over time, alongside relevant theories for interpreting these processes from fields such as History. Anthropology, and Sociology. Students will gain hands-on experience using the Python programming language to harness a diverse set of digital data sources, ranging from satellite images to social media posts. Additionally, they will learn to employ computational approaches, such as simulation and dynamic topic modeling, to study social processes over a variety of different time scales: from the short term (changes in social media network structures over the course of the past week), to longer term (the evolution of English language discourse over the past 100 years), to deep time scales (long-term settlement pattern dynamics over the past 10,000 years).

Instructor(s): Jon Clindaniel Terms Offered: Autumn

Equivalent Course(s): MACS 30124

#### MAPS 30133. Machine Learning for Political Analysis. 100 Units.

This is an intermediate-to-advanced introduction to the mathematical and computational aspects of the core statistical and machine learning techniques. The goal is to equip students with a knowledge of the theoretical and practical aspects of four groups of machine learning methods which are widely used in applied research: (1) dimension reduction (PCA, MDS, and their extensions) (2) classification methods (SVM, Bayes classifiers, and other classification methods) (3) clustering procedures and density estimation (K-means, FMM, non- and semi-parametric Bayesian methods) (4) categorical data analysis (with brief introduction to probabilistic graphical models). The course includes applications in Political Science, such as FMM to estimate fraud in elections, PCA to construct indices to measure democracy, and text classification. Instructor(s): Diogo Ferrari Terms Offered: Spring

Prerequisite(s): Proficiency in R or Python; basic calculus; probability and statistics (regression, expectation, variance), basic linear algebra

Equivalent Course(s): MACS 30133

#### MAPS 30301. Introduction to Bayesian Statistics. 100 Units.

The goal of this course is to give students an overview of the theory and methods for data analyses using the Bayesian paradigm. Topics include: (1) foundations of Bayesian inference, (2) development of Bayesian models and prior choices (3) analytical and simulation techniques for posterior estimation (4) model choice and diagnostics (5) sensitivity analysis, (6) an introduction to Monte Carlo Markov Chain (MCMC) simulations (7) intro to commonly used Bayesian estimation packages (R/JAGS/Bugs) (8) application of Bayesian analysis in real world and Political Science problems. Instructor(s): Diogo Ferrari Terms Offered: Autumn Equivalent Gourage(3) MACE (2020)

Equivalent Course(s): MACS 30301

#### MAPS 30600. MA Writing and Research. 100 Units.

Student initiated research and writing for the MA thesis. Instructor(s): John Hansen Terms Offered: Spring Winter

#### MAPS 30900. Survey Research Overview. 100 Units.

The course provides an overview of interview-based data collection methods. Each student must develop a research question to guide their research design. Students get an overview of different interview-based data collection methods (focus groups, key-informant interviews, large-N sample surveys), how to sample and design a questionnaire or interview guide for their project, and the nuts and bolts of actual recruitment, receipt control and survey administration. The instructor provides feedback for proposed elements of each student's research plan through weekly assignments. The final paper is a research proposal that outlines a plan for research to address the student's research question. Instructor(s): M. Van Haitsma Terms Offered: Autumn Winter. entativley

Equivalent Course(s): SOCI 30118, SOSC 30900

#### MAPS 31230. Stigma Lab. 100 Units.

The concept of stigma is mobilized to explain a wide range of practices and experiences both in scholarship and everyday life. In this course, we critically engage readings on stigma from across the social sciences in order to develop a genealogy of how the concept emerged. We then read a series of ethnographic and other social science texts to analyze how the concept is utilized. Finally, students consider how stigma functions as an analytic and explanatory model in their own work. It is important that students enrolled in this course have a research project-- proposed or actual-- involving stigma in some way-- or that they are interested in working through stigma as a concept collectively.

Instructor(s): M. Friedner Terms Offered: Winter Prerequisite(s): Advanced undergraduates. Note(s): CHDV Distribution: C, D; 2, 4

Equivalent Course(s): CHDV 31230, CHDV 21230, ANTH 35140

#### MAPS 31500. Historical Methods. 100 Units.

This course is an exploration of interrelated questions, problems, challenges and provocations involved in the practice of 'doing' history. We will explore a range of ways that historians have approached the practice over the past 40 years, utilizing prominent works of history as well as methodological and theoretical readings. The course seeks to provide students with a greater depth of knowledge about potential ways of practicing history and what determines the methodological choices we make. In the process, students will become more skilled at using the methodological, theoretical, conceptual and practical tools required to formulate and execute a substantial historical research project. Assignments will allow students to explore their subject of interest and begin developing a thesis project. This is an online course which will feature a blend of synchronous discussion and asynchronous requirements.

Instructor(s): Darcy Heuring Terms Offered: Autumn

Note(s): Open to MAPSS students only.

#### MAPS 31501. The Craft of History. 100 Units.

This course offers a graduate-level introduction to professional historical methods, with a dual focus on contemporary historiographical trends and hands-on practice with archival material. Students will read one recent book each week and will use classroom discussions to consider how the text fits into larger arguments and trends in the field. Students will also work collaboratively to examine published, digital, and manuscript archives relating to a cluster of topics to be determined in the first two weeks of the quarter. Advanced undergraduates, particularly students with a strong interest in archival research, may enroll with instructor permission.

Instructor(s): John McCallum Terms Offered: Winter

#### MAPS 31502. Foucauldian Analytics of Power. 100 Units.

The topic of this graduate seminar will be Foucault's pathbreaking theorization of power. After briefly examining alternative conceptions of power in political thought, we will consider the impetus for Foucault's post-archaeological turn to the question of power and track the development of the concept through his publications and lecture courses. Our basic aim will be to grasp the particularities of the forms of power he identifies (disciplinary power, biopower, pastoral power), with special attention to their historical specificity, relation to knowledge and the subject, and modes of resistance, as well as the theme of political rationality. Along the way we will ask: What is it possible to say about power in general? What political possibilities do these analytics open or foreclose? The last few weeks of the course will be devoted to recent book-length studies that theorize power-relations through a Foucauldian lens.

Instructor(s): Dawn Herrera Terms Offered: Spring Equivalent Course(s): FNDL 21505 MAPS 31503. Sarah Baartman through Schitt's Creek:an Introduction to Gender and Popular Culture. 100 Units. Throughout the twentieth century, scholars from Simone de Beauvoir through Judith Butler have argued that genders are learned, enacted and ascribed identities, worked out through interaction. As such, the production of 'gender' is carried out to some extent in relation to cultural models and artifacts that people use to make sense of, model and reject gendered identities, characteristics and roles. This course takes popular culture, including film, television, literature and social media, as a starting point for understanding the often taken-for granted characteristics deemed gendered in Western culture and elsewhere. Attending to race, class, sexuality, age and other social categorizations throughout, we will draw on representation and cultural theory as well as ethnographic works, mingling a close reading of theorists such as Erving Goffman and bell hooks with detailed attention to the latest reality show or trending hashtag. While we will focus primarily on the most widely disseminated and economically powerful imagery, we will also attend to alternative, resistant and activist media. This is an introductory graduate-level course; graduate students at all levels are invited to join, selected spots are reserved for advanced undergraduates.

Instructor(s): Mary Elena Wilhoit Terms Offered: Spring

Note(s): Undergrad cap at 5

Equivalent Course(s): ANTH 32930, GNSE 31503, GNSE 21503

#### MAPS 31504. Ethnographic Approaches to Power and Resistance. 100 Units.

This introductory graduate course will examine understandings of power articulated by influential political theorists and ethnographers. We will explore key theoretical concepts, including discipline, governmentality, sovereignty, hegemony, agency, and resistance, as well as their application within textured, intersubjective, and affectively oriented ethnographic texts. Seeing power grounded in tentative and unstable practices, we will focus on the tensions between nation-states, informal networks, and the actions and aspirations of individual subjects. How are attempts to consolidate power articulated in performances, narrative histories, and acts of exclusion and violence? How are competing de facto and de jure powers negotiated in various spaces ranging from the institutional to the intimate? The centrality of both physical violence and the complacency born of the naturalized hegemony of political institutions and economic rationality will arise in our examinations of political mobilization and possibility. This course will give students opportunities to develop conceptual understandings of various modes of power that offer insights into the forces of colonialism, global interconnectivity, and violence that shape the 21st century world.

Instructor(s): Victoria Gross Terms Offered: Spring Equivalent Course(s): ANTH 22765, ANTH 34730

#### MAPS 31505. Critical Approaches to Labor Studies. 100 Units.

Work occupies a central role in our lives. This course will provide a critical overview of labor studies. We will cover topics such as the concept of the working class; labor process theory; perspectives on labor market segmentation based on race, ethnicity, gender, class and migrant status; the types of jobs that are available in the labor market, and what they mean for the workers who hold them. While covering the entire field of labor studies is beyond the scope of any single course, we will draw upon selected readings examining occupations in agriculture, manufacturing, hospitality and high-tech sectors from different parts of the world. This course is open to students across disciplines interested in critical labor studies. Parts of senior honors or MAPSS thesis can be submitted as writing assignments for the course. It is particularly recommended for thesis writers.

Instructor(s): Amit Anshumali Terms Offered: Spring Equivalent Course(s): SOSC 21505, SOCI 30322

#### MAPS 31506. The Anthropology of Bodily Modification. 100 Units.

From the urge to dye one's hair through the desire to reshape the body entirely, humans have desired to modify their corporeal forms throughout documented history. This is, in fact, one disposition or ability that seemingly sets humans apart from many cousin species. But our processes of bodily modification are also intrinsically cultural-one person's adornment is another's mutilation. In this class we examine bodily modification practices cross-culturally, studying the mundane and the extreme, from shaving to tattooing to neck-lengthening to medically unnecessary amputation. We examine gendered forms, from makeup to Botox to foot-binding, and we interrogate racialized and post-colonial practices, such as hair straightening, skin-bleaching, and plastic surgery. We will trace desires for bodily modification across time and space and consider the body as the earliest canvas, examining the very earliest evidence of bodily adornment, which appears to predate so-called cave painting. In short, we will attempt to historicize, contextualize and give meaning to cross-cultural behaviors of bodily modification, using ethographic texts, cultural theory and historical and archaeological evidence. Instructor(s): Mary Elena Wilhoit Terms Offered: Spring

Note(s): This is an introductory graduate level course; undergraduates are welcome with instructor consent.

#### MAPS 31507. Critical Approaches to Labor Migration in the Informal Economy. 100 Units.

In this course, we will understand the importance of labor migration in the context of an informal economy. Instructor(s): Amit Anshumali Terms Offered: Winter

#### MAPS 31508. The Collective Self: Critical Reflections on Coming Together and Breaking Apart. 100 Units.

This course will examine the historical contingencies and ideological underpinnings of concepts and practices of identity, understood most broadly as delineations between self and other. Starting with understandings of individual and collective personhood developed in enlightenment philosophical discourse, entrenched in the modern nation-state, and expanded through the violence of colonialism, we will trace the production and reproduction of interconnected forms of identity ethnic, cultural, national, and religious - in practices of boundary making that always remain incomplete. Grounded in the humanistic social sciences and focused in particular on anthropology, this course will introduce seminal theories of identity and difference in order to provide a range of resources to help students interrogate allegiances articulated in the tones and textures of everyday life, as well as in modern-day eruptions of large-scale violence. Instructor(s): Tori Gross Terms Offered: Spring

#### MAPS 31599. Digital Ethnography. 100 Units.

TBD

Instructor(s): Caterina Fugazzola Terms Offered: Autumn

#### MAPS 31600. Ethnographic Methods. 100 Units.

As ethnography has matured over the past century, it has also extended itself into all corners of academia, becoming a cornerstone for empirical research not just in anthropology, but the humanities, social sciences, professional schools, and at times the natural sciences as well. What, then, is the appeal of this process of knowledge production? What are the norms of ethnographic research? And what does it take to become a skilled ethnographer? This course will attempt to answer those questions through a mixture of theory and practice. Each week we will discuss foundational anthropological texts on method, complemented with practicums and workshops, during which students will apply the theoretical insights gained from their readings to their own empirical research projects. The course will cover both the practicalities of fieldwork (how to find and get access to a site, how to build rapport with informants and make lasting contacts, how to conduct different kinds of interviews, etc), as well as the deeper ethical, epistemological and ontological issues raised by ethnography (the problems of representation, the ethics of participant observation, the subject position of the ethnographer). Through that students will learn how to embody a rigorous, theoretically informed, and critically reflective methodological practice and will demonstrate a skilled understanding of this through their own 'mini-ethnography,' which will be undertaken on a topic of their choosing.

Instructor(s): F.Mckay Terms Offered: Autumn

#### MAPS 31701. Data Analysis & Statistics. 100 Units.

This course is designed for graduate students and advanced undergraduate students and aims to provide a strong foundation in the statistical and data analyses commonly used in the behavioral and social sciences. Topics include logistic regression, statistical inference, chi-square, analysis of variance, and repeated measures models. In addition, this course also place greater emphasis on developing practical skills, including the ability to conduct common analyses using statistical software. You will learn how to build models to investigate your data, formulate hypothesis tests as comparisons between statistical models and critically evaluate model assumptions. The goal of the course is for students to be able to define and use descriptive and inferential statistics to analyze and interpret statistical findings.

Instructor(s): Peishan Fan Terms Offered: Autumn

#### MAPS 31702. Data Science. 100 Units.

This course is a graduate-level methods class that aims to train you to solve real-world statistical problems. The goal of the course is for students to be able to choose an appropriate statistical method to solve a given problem of data analysis and communicate your results clearly and succinctly. There will be an extensive hands-on experience of analysis of real data through practical classes.

Instructor(s): Peishan Fan Terms Offered: Winter

#### MAPS 31750. Data Analysis for Social Research. 100 Units.

The purpose of this course is help students build a solid foundation of statistical methods for social research and become proficient in using computer software for survey data analysis. Techniques acquired in this class are essential for social scientific research, and in graduate programs in sociology and professional schools such as social work, as well as job market positions which require basic to intermediate quantitative skills. Topics of this course range from the nuts and bolts of probability distributions and statistical inference to multivariate regression and its diagnostics. This course is intensive and moves pretty fast, and students are expected to work hard to have these skills 'imprinted' in their minds. Further, students will have the opportunity to conduct a mini-research exercise in the second half of this course. Instructor(s): Muh-Chung Lin Terms Offered: Autumn

#### MAPS 31760. Conceptual Tools for Quantitative Research. 100 Units.

The main purpose for designing this course is to provide instruction on core principles of quantitative research methodology in the social sciences. This course will equip graduate students with the conceptual tools of quantitative research that form the foundation for data management, data analysis and inference. We will examine a series of topics related to measurement, sampling, hypothesis development, data structure and model interpretation which scholars would encounter when designing any project that uses quantitative data for empirical research. My main target audience is graduate students enrolled in the Masters Program in Social Sciences who will be using quantitative research techniques for their MS thesis project. Students enrolled in this course are expected to have taken at least one upper-level undergraduate course in multiple linear regression analysis. Students who are not planning to use quantitative methods in the future can also enroll in this course to develop proficiency in reading research publications and scholarly reports that use quantitative tools.

Instructor(s): Amit Anshumali Terms Offered: Spring

Equivalent Course(s): SOSC 26010, SOCI 30320

#### MAPS 31800. Interpretive Methods in Political Theory. 100 Units.

This seminar offers a graduate-level survey of the major interpretive schools in contemporary political thought. Instructor(s): Dawn Herrera Helphand Terms Offered: Winter Equivalent Course(s): SOSC 31800

#### MAPS 32900. Revising History: Modern American Case Studies. 100 Units.

How do historians charge their mind? What kinds of evidence reverse old judgments, how is error diagnosed, and how do new interpretations take root? When does 'revisionism' give rise to lasting controversies, and when do scholars simply shrug off old debates and turn to new questions? This course offers a graduate-level introduction to the bread-and-butter of the professional historian: the constant reconsideration of the past as a provisional body of knowledge. Readings will be drawn from modern U.S. history and will explore a series of major case studies including recent reevaluations of populism, immigration, race and empire, conservative thought, economic inequality, and environmentalism. This course is open to advanced undergraduates with instructor consent and can fulfill the methods requirement for MAPSS students. Instructor(s): John McCallum Terms Offered: Autumn

#### MAPS 33007. Schooling and Social Inequality. 100 Units.

How and why do educational outcomes and experiences vary across student populations? What role do schools play in a society's system of stratification? How do schools both contribute to social mobility and to the reproduction of the prevailing social order? This course examines these questions through the lens of social and cultural theory, engaging current academic debates on the causes and consequences of social inequality in educational outcomes. We will engage these debates by studying foundational and emerging theories and examining empirical research on how social inequalities are reproduced or ameliorated through schools. Through close readings of historical, anthropological and sociological case studies of schooling in the U.S, students will develop an understanding of the structural forces and cultural processes that produce inequality in neighborhoods and schools, how they contribute to unequal opportunities, experiences, and achievement outcomes for students along lines of race/ethnicity, class, gender, and immigration status, and how students themselves navigate and interpret this unequal terrain. We will cover such topics as neighborhood and school segregation; peer culture; social networks; elite schooling; the interaction between home, society and educational institutions; and dynamics of assimilation for students from immigratio communities.

Instructor(s): Lisa Rosen Terms Offered: Autumn. Offered 2020-21

Note(s): Priority registration given to MAPSS students seeking the Education and Society certificate. Undergraduate enrollment by consent.

Equivalent Course(s): SOCI 30298, EDSO 22006, EDSO 33006, SOCI 20298, CRES 22006

#### MAPS 33009. Research Practice Partnerships in Education. 100 Units.

Research and data are vital for educational improvement, yet researchers often wonder why their findings are not used in practice while policymakers and practitioners long for useful information to guide their work. Research-practice partnerships provide a mechanism for producing research that is relevant to decision-making and useful to practice. They focus research on questions that are immediately pressing to practice, incorporate practitioner knowledge, and communicate findings in ways that are attentive to the broader political context in which educators work. In this class, we will examine the ways in which data and research are used in policy and practice. We will consider the various conceptual models that exist around the production and use of research, and the realities of how those models operate in practice. We will learn about different approaches to conducting research-practice partnerships, and examine particular examples of work-considering how the work was done, what was learned, and how the research-was used in policy or practice. The course will also consider the challenges involved in developing and maintaining research-practice partnerships, and structures that can facilitate the work. Instructor(s): Elaine Allensworth Terms Offered: Spring. Offered 2020-21

Prerequisite(s): It is recommended that students take Introductory Statistics or a research methods course concurrent with or prior to this course.

Note(s): Students will find it helpful to have prior knowledge of education policy, and a basic understanding of research methods and policy evaluation.

Equivalent Course(s): EDSO 33009, EDSO 23009

#### MAPS 33129. Transnational Queer Politics and Practices. 100 Units.

This course aims to examine gender and sexual practices and identities in a transnational perspective. As people and ideas move across national, cultural, and racial borders, how is sexuality negotiated and redefined? How are concepts such as 'global queerness' and the globalization of sexualities leveraged for change? How are queer identities and practices translated, both culturally and linguistically? To explore transnational articulations of queerness we will draw on a range of theoretical perspectives, including postcolonial, feminist, queer, and indigenous approaches to the study of sexualities. We will engage with scholarship on the politics of global gay rights discourses, on the sexual politics of migration, and on the effects of colonialism and neoliberal capitalism. By analyzing queer experiences and practices in a transnational context, our goal is to decenter and challenge Western-centric epistemologies and to dive into the complexities of cultural representations of queerness around the globe.

Instructor(s): Cate Fugazzola Terms Offered: Spring Equivalent Course(s): GLST 23129, GNSE 23119, GNSE 33119, SOCI 30323

#### MAPS 33313. Marx: Themes and Variations. 100 Units.

We will begin with an intensive survey of major themes in the work of Marx and Engels, with attention to their antecedents in philosophy and political economics and their course of development from the early to the late work. We will then revisit these themes through some of their most prominent variations in contemporary political theory, sounding them out through the Frankfurt School, Black studies, structuralist and post-structuralist thought, analytic philosophy and feminist critique. Instructor(s): Dawn Herrer Helphand Terms Offered: Autumn Equivalent Course(c), ENDL 23215

Equivalent Course(s): FNDL 23315

#### MAPS 33501. Gender, Sex, and Empire. 100 Units.

This course examines the complex and contested relationships between gender, sex, sexuality, social organization and power in histories of (primarily British) imperialism and colonialism from the early conquests in the New World through the twentieth century. Employing insights from gender history, postcolonial studies and feminist theory, we look at a broad range of historical case studies to explore themes such as the intersectionality of race, class and gender; the instability of gender ideologies; how power was articulated through the categories of gender and sexuality; the politics of intimacy; and the regulation and 'improvement' of colonial bodies. Our goal is to better understand the ways that gender, sex, sexuality and Western imperialism were co-constitutive in distinctive colonial contexts, and the ways that techniques of power were borrowed, adapted and homogenized across the Western imperial world in response to changing political and economic imperiatives.

Instructor(s): Darcy Heuring Terms Offered: Spring

Equivalent Course(s): GNSE 25706, HIST 23308, GNSE 33501

#### MAPS 33502. Gender, Sex, and Culture. 100 Units.

This introductory graduate course examines the social construction of gendered identities in different times and places. We study culturally-specific gendered experiences, 'roles,' rights and rebellions around the world, discussing the individual and social consequences of gender and the interrelationships between gender and other categories for identity including race, class and sexuality. While focusing on the global diversity of gendered experience and expectations, we also examine gender in the US, taking a critical approach to understanding gendered inequality and gender-based and sexual violence both abroad and a home. Finally, we examine the role of gendered expectations in Western science, the relationship between gender and 'globalization,' and the contemporary movements affecting change in gendered norms, especially in the arts and media. Advanced Undergraduates admitted with Instructor consent.

Instructor(s): Mary Elena Wilhoit Terms Offered: Autumn

Prerequisite(s): Advanced Undergraduates admitted with Instructor consent.

Equivalent Course(s): GNSE 33506, ANTH 32925, GNSE 23506, ANTH 25216

#### MAPS 33503. Ethnographic Approaches to Gender and Sexuality. 100 Units.

This methods course aims to prepare graduate students and advanced undergraduates for ethnographic research on topics focused on gender and sexuality. We will read articles and books showcasing ethnographic methodologies, and we will discuss benefits and limitations of various research designs. Class debates will cover epistemological, ethical, and practical matters in ethnographic research. We will discuss issues of positionality, self-reflexivity, and power. Students will be required to formulate a preliminary research question at the beginning of the course, and will conduct a few weeks of ethnographic research in a field site of their choosing. Each week students will produce field notes to be exchanged and discussed in class, and as a final project they will be asked to produce a research proposal or a short paper based on their observations.

Instructor(s): Cate Fugazzola Terms Offered: Autumn Winter Equivalent Course(s): SOCI 30319, GNSE 33505, GNSE 23505

#### MAPS 33506. Ethnographic Research Methods: Theory, Practice and Application. 100 Units.

This introductory graduate course examines ethnography, the primary research methodology of Anthropologists and a technique also employed by many other social scientists. We study the evolution of ethnographic practices and ethnographic writing over the last 150 years, and we practice the methods of ethnography, including sampling techniques, participant observation, interview techniques and various kinds of data analysis, throughout. We examine alternative forms of ethnography such as visual ethnography, testimonio or life-history, and autoethnography to better understand the ever-evolving techniques anthropological research can take, and we devote significant study to the application of ethnographic research outside the field of Anthropology and outside the academy. Beginning in week two students will design their own ethnographic research project, writing up a formal proposal and progress reports; this project eventually provides the data for their final paper in the class. Undergraduates admitted with Instructor consent.

Instructor(s): Mary Elena Wilhoit Terms Offered: Winter

Equivalent Course(s): SOCI 30321

#### MAPS 33508. Anthropology of Power, Status, and Performance. 100 Units.

This introductory graduate course examines the nature of power and status through the theoretical lens of performativity. We will engage with notions of performativity, articulated by influential theorists of linguistics, gender, and religion, that demonstrate the abilities of performances to effect change in the world. Thinking with performativity, we will interrogate practices of negotiating power and status in a broad range of social, political, and geographical contexts. How is the power made and unmade through particular acts? How is status, a particular type of power differentiation, created collectively and individually through acts of saying and doing? Such questions will animate our explorations of power and status in recent ethnographies focused on Asia, the Americas, and Europe.

Instructor(s): Victoria Gross Terms Offered: Winter

Equivalent Course(s): ANTH 22770, ANTH 34735, GNSE 22770

#### MAPS 33600. War, Law, Norms: Violence and Its Limits. 100 Units.

Violent contention is ubiquitous in the human past, but so are ethical norms and legal rules which seek to put limits on permissible attacks against others. Do they work? Can scraps of paper, or collective conscience, put the brakes on a dynamic of destruction which would otherwise lead to unconstrained killing? This graduate colloquium will look at this fundamental question through the lens of a rapidly evolving historical literature on the laws and ethics of war, ranging from the arbitration of blood feuds in the Icelandic Sagas through the surprising influence of the much-derided 1928 Kellogg-Briand Pact outlawing war on the unfolding of 21st century history.

#### MAPS 34500. Anthropology of Museums I. 100 Units.

Using anthropological theories and methodology as a conceptual framework, this seminar will explore the organizational and ideological aspects of museum culture(s). The course includes visits to museums with guest museum professionals as guides into the culture of museums.

Equivalent Course(s): ANTH 24510, CHDV 34501, SOSC 34500, ANTH 34501, MAPH 34400

#### MAPS 34512. Unfolding Anthropology: Practices of Research and Representation. 100 Units.

This introductory graduate course interrogates the forms of interaction, understanding, and representation that define the ongoing evolution of the discipline of anthropology. Starting with the early moments of anthropology and proceeding to contemporary texts, we will identify both the unique insights anthropology offers and its blind spots. Students will be given opportunities to explore the value of anthropology as a way of thinking with and about human experience through close studies of the discursive frameworks, aesthetic forms, and claims of ethnographies. What kinds of knowledge are conveyed in what forms? What kinds of truths are communicated through what kinds of texts? These are some of the questions we will explore as we gain exposure to wide-ranging ethnographies focused on South Asia, Brazil, Morocco, Southern Africa, and the United States. We will enrich close readings of ethnographies with hands-on explorations of the methods of anthropology. Students will undertake research projects, and compose abridged ethnographies in order to complicate their practices of intellectual engagement and critique with the contingencies of life outside the classroom. Instructor(s): Victoria Gross Terms Offered: Autumn

Equivalent Course(s): ANTH 35720, ANTH 25720

#### MAPS 34513. Unsettling Sovereignty: Political Practices and Personal Aspirations. 100 Units.

This introductory graduate course will explore competing sovereignties as tentative, emergent, and contested forms of authority and control. Focusing on the tensions between nation-states, informal/illegal networks, and the actions and aspirations of individual subjects, we will interrogate sovereignty as both a deferred personal aspiration and a political practice. What are the roles of performances, narrative histories, and acts of exclusion and violence in the making of sovereignties? How are competing de facto and de jure sovereignties negotiated at the levels of individual subject, community, and nation-state? The centrality of both physical violence and the consent and complacency born of the naturalized hegemony of political institutions and economic rationality will arise in our close readings of ethnographic texts on political mobilization and precarious authorities.

Instructor(s): Victoria Gross Terms Offered: Winter

Equivalent Course(s): ANTH 34725, ANTH 22750

#### MAPS 34600. Anthropology of Museums II. 100 Units.

Using anthropological theories and methodology as a conceptual framework, this seminar will explore the organizational and ideological aspects of museum culture(s). The course includes visits to museums with guest museum professionals as guides into the culture of museums.

Instructor(s): M. Fred Terms Offered: Autumn Winter Prerequisite(s): Advanced standing and consent of instructor Note(s): CHDV Distribution: C

Equivalent Course(s): ANTH 24511, SOSC 34600, ANTH 34502, CHDV 38102

#### MAPS 34700. Language, Culture and Development. 100 Units.

This course is designed to be an interdisciplinary class that explores research in early cognitive development within the field of language, culture and the self. We will discuss a variety of topics in cognitive development, as well as important questions concerning language and culture. This course will touch upon on research across development to document early biases in human reasoning that might persist through the lifespan, and will emphasize how we can use basic science research to inform educational goals and make positive contributions to addressing issues related to language and culture. Instructor(s): Peishan Fan Terms Offered: Spring

Prerequisite(s): Open only for graduate students and 4th year undergraduates. Undergraduates must have instructor consent.

#### MAPS 35148. Israel in Film and Ethnography. 100 Units.

This seminar explores the dynamics of Israeli culture and society through a combination of weekly screenings of Israeli fiction and documentary films with readings from ethnographic and other relevant research. Among the (often overlapping) topics to be covered in this examination of the institutional and ideological construction of Israeli identity/ise: the absorption of immigrants; ethnic, class, and religious tensions; the kibbutz; military experience; the Holocaust; evolving attitudes about gender and sexuality; the struggle for minorities' rights; and Arab-Jewish relations. In addition to the readings, participants will be expected to view designated films before class related to the topic.

Equivalent Course(s): NEHC 25148, ANTH 25148, CMES 35148, NEHC 35148, ANTH 35148, JWSC 25148

#### MAPS 35150. Anthropology of Israel. 100 Units.

This seminar explores the dynamics of Israeli culture and society through a combination of weekly screenings of Israeli fiction and documentary films with readings from ethnographic and other relevant research. Among the (often overlapping) topics to be covered in this examination of the institutional and ideological construction of Israeli identity/ies: the absorption of immigrants; ethnic, class, and religious tensions; the kibbutz; military experience; the Holocaust; evolving attitudes about gender and sexuality; the struggle for minorities' rights; and Arab-Jewish relations.

Instructor(s): Morris Fred Terms Offered: Spring

Equivalent Course(s): ANTH 25150, NEHC 35147, JWSC 25149, ANTH 35150, NEHC 25147, CMES 35150

#### MAPS 36300. Child, Adolescent, and Adult Development in Socio-Cultural Context. 100 Units.

In this course, students are introduced to the profound impact that socio-cultural context has on the physical, emotional, cognitive, and social development of children, adolescents and adults. In short, the course argues that we cannot separate human biology (e.g., heredity, brain development, physiology), from social experience and culture, which are viewed as necessary for the proper unfolding of developmental processes. Through course readings, students will engage with developmental theories, themes and concepts from psychology, cultural psychology, and linguistics that will allow them to explore their own development and the development of others. The main focus will be on 'normal' development, or group averages, although differences among individuals will also be discussed. The course structure incorporates lectures based on text book readings and seminar-style discussions of current research in the field.

Instructor(s): S. Van Deusen Phillips Terms Offered: Spring 2014

Equivalent Course(s): CHDV 26303, CHDV 36303

#### MAPS 36400. Aging and the Life Course. 100 Units.

Over the last few decades, life course has become an important perspective for sociologists, demographers, and gerontologists to understand the social processes of aging. This seminar course introduces key concepts of the theories of aging and the life course, as well as empirical findings on the social, demographic, and economic aspects of the demographics of aging. While biology and physiology play crucial role in aging, such as greater longevity and the delayed onset of morbidity, this course focuses on the social processes of aging and the role of social stratification in shaping health and well-being. In addition, this course will discuss the policy implications of aging. Instructor(s): Muh-Chung Lin Terms Offered: Spring

MAPS 36450. Marriage and Family. 100 Units.

# Marriage and the family are two important building blocks in many societies. Marriage and the family not only constitute essential parts of an individual's inner world, shape his or her perspectives towards life and the outside world, they also have far reaching effects on an individual's well-being, ranging from physical and mental health, income and wealth, to his or her integration to the social network and community. This course aims to introduce students to the sociological literature on marriage and the family. We will cover stages through which a romantic relationship evolves over time, from dating

and courtship, sexual relationship to cohabitation and marriage, as well as divorce and widowhood. We will also discuss socioeconomic differences in childrearing practices, kinship, and social stratification and the family. This course focuses largely on patterns in the contemporary U.S. society, and yet we will also explore their historical roots and international differences.

Instructor(s): Muh-Chung Lin Terms Offered: Winter Equivalent Course(s): GNSE 36450

Equivalent Course(3). GIVEE 50450

#### MAPS 36500. Social Demography. 100 Units.

This course seeks to introduce important topics in social demography to master and upper-level undergraduate students. Social demography studies the social aspects influencing the population processes. Specifically, this course focuses on basic demographic concepts, fertility transition, extreme fertility regimes, epidemiological transition, differential health and mortality, health behaviors, population aging, migration, household formation, second demographic transition, and population and environment. Students are evaluated by their participation, leading discussions, reflection memos, and a final project.

Instructor(s): Muh Chung Lin Terms Offered: Spring Equivalent Course(s): PBPL 26501

#### MAPS 36601. Watergate and American Democracy. 100 Units.

Contemporary American history begins with the Watergate crisis and the resignation of Richard Nixon from the presidency. But how does Watergate fit into the wider fabric of American history? This course considers the implications of Watergate for American democracy in a wider chronological perspective, beginning with the revolutionary generation's ambivalence about monarchical power and ending with the legacies of Nixon's scandal for his successors Instructor(s): John McCallum Terms Offered: Spring

#### MAPS 36900. Anthropology of Disability. 100 Units.

This seminar undertakes to explore 'disability' from an anthropological perspective that recognizes it as a socially constructed concept with implications for our understanding of fundamental issues about culture, society, and individual differences. We explore a wide range of theoretical, legal, ethical, and policy issues as they relate to the experiences of persons with disabilities, their families, and advocates. The final project is a presentation on the fieldwork.

Instructor(s): M. Fred Terms Offered: Autumn

Prerequisite(s): Third- or fourth-year standing

Equivalent Course(s): HMRT 35210, CHDV 30405, CHDV 20505, ANTH 20405, SOSC 36900, HMRT 25210, ANTH 30405

#### MAPS 37000. Freud's Interpretation of Dreams. 100 Units.

Freud himself described The Interpretation of Dreams as the repository of the 'greatest discoveries' he was destined to make about the human psyche and the human condition. As a Fundamentals course, we will analyze this text as an autonomous whole, line by line, and, reflexively, argumentative filament by filament. As a classic of modern social thought, we will explore the proposition that The Interpretation of Dreams is, however inadvertently, the greatest single work on 'culture,' conceived as a semiotic system, ever written. Iconic writing, that is to say the capacity and the constraints of conveying bodily experience in words, will be a special focus of our reading.

Instructor(s): J. MacAloon Terms Offered: Spring

Prerequisite(s): Open only to graduate students and 3rd and 4th year undergraduates.

Equivalent Course(s): FNDL 29605

#### MAPS 39200. Latin American Religions, New and Old. 100 Units.

This course will consider select pre-twentieth-century issues, such as the transformations of Christianity in colonial society and the Catholic Church as a state institution. It will emphasize twentieth-century developments: religious rebellions; conversion to evangelical Protestant churches; Afro-diasporan religions; reformist and revolutionary Catholicism; new and New Age religions.

Instructor(s): D. Borges Terms Offered: Autumn

Equivalent Course(s): HCHR 39200, CRES 29000, HIST 29000, RLST 21401, LACS 29000, HIST 39000, LACS 39000, CRES 39000

# MAPS 40164. Involved Interviewing: Strategies for Interviewing Hard to Penetrate Communities and Populations. 100 Units.

Imagine that you must interview someone who hails from a background unlike your own; perhaps you need to interview an incarcerated youth, or gather a life history from an ill person. Maybe your task is to conduct fieldwork inside a community that challenges your comfort level. How do we get others to talk to us? How do we get out of our own way and limited training to become fully and comfortably engaged in people and the communities in which they reside? This in-depth investigation into interviewing begins with an assumption that the researcher as interviewer is an integral part of the research process. We turn a critical eye on the interviewer's role in getting others to talk and learn strategies that encourage fertile interviews regardless of the situational context. Weekly reading assignments facilitate students' exploration of what the interview literature can teach us about involved interviewing. Additionally, we critically assess our role as interviewer and what that requires from us. Students participate in evaluating interview scenarios that are designed to explore our assumptions, sharpen our interviewing skills and troubleshoot sticky situations. We investigate a diversity of settings and populations as training ground for leading effective interviews. The final project includes: 1) a plan that demonstrates knowledge of how to design an effective interviewing strategy for unique field settings; 2) instructor's feedback on students' personal journals on the role of.

Instructor(s): S. Hicks-Bartlett Terms Offered: Autumn Winter

Prerequisite(s): Advanced Undergraduates MUST obtain permission from instructor to enroll.

Equivalent Course(s): SOCI 40164

## MAPS 40177. Coding & Analyzing Qualitative Data: Using Open-Source Computer Asst. Qualitative Data Analysis. 100 Units.

This is a graduate-level course in coding and analyzing qualitative data (e.g., interview transcripts, oral histories, focus groups, letters, and diaries, etc). In this hands-on-course students learn how to organize and manage text-based data in preparation for analysis and final report writing of small scale research projects. Students use their own laptop computers to access one of two free, open-source software programs available for Windows, Mac, and Linux operating systems. While students with extant interview data can use it for this course, those without existing data will be provided text to code and analyze. This course does not cover commercial CAQDAS, such as AtlasTi, NVivo, The Ethnograph or Hypertext. Instructor(s): S. Hicks-Bartlett Terms Offered: Spring Winter Equivalent Course(5): SOCI 40177

#### MAPS 40200. Seminar: Bourdieu/Sociobiography. 100 Units.

This seminar explores the conceptual architecture of Pierre Bourdieu's social theory, with special attention to its implications for biography and autobiography.

Instructor(s): John MacAloon Terms Offered: Spring Equivalent Course(s): ANTH 40165

#### MAPS 40301. Case Studies on the Formation of Knowledge II. 100 Units.

The KNOW core seminars for graduate students are offered by the faculty of the Stevanovich Institute on the Formation of Knowledge. This two-quarter sequence provides a general introduction, followed by specific case studies, to the study of the formation of knowledge. Each course will explore 2-3 case study topics, and each case study will be team-taught within a 'module.' # A short research paper is required at the end of each quarter. Graduate students from every field are welcome. Those who take both quarters are eligible to apply for a SIFK 6th-year graduate fellowship. For more information, please email your questions to sifk@uchicago.edu Module 1 : Foundations of Psychology in Linguistics and Biology Robert Richards, John Goldsmith This module will examine the ways several established disciplines, particularly linguistics and biology, came together in the mid-19th century to establish the science of psychology. Both linguistics and biology offered empirical and theoretical avenues into the study of mind. Researchers in each advanced their considerations either in complementary or oppositional fashion. Module 2 : Origins of the Social Construction of Knowledge Robert Richards, Alison Winter This module will trace the development of the idea of the social construction of knowledge and its relation to philosophy and history of science. The development lit a spark, then created a conflagration, and yet still smolders. Module 3 : The Politics of Philosophical Knowledge

Equivalent Course(s): MAPH 40300, KNOW 40300, HIST 64901, SCTH 40300, CMLT 41803, CHSS 40300, EALC 50300, SOCI 40210

#### MAPS 40401. Computation and the Identification of Cultural Patterns. 100 Units.

Culture is increasingly becoming digital, making it more and more necessary for those in both academia and industry to use computational strategies to effectively identify, understand, and (in the case of industry) capitalize on emerging cultural patterns. In this course, students will explore interdisciplinary approaches for defining and mobilizing the concept of 'culture' in their computational analyses, drawing on relevant literature from the fields of Anthropology, Psychology and Sociology. Additionally, they will receive hands-on experience applying computational approaches to identify and analyze a wide range of cultural patterns using the Python programming language. For instance, students will learn to identify emerging social movements using social media data, predict the next fashion trends, and even decipher ancient symbols using archaeological databases.

#### Instructor(s): Jonathan Clindaniel Terms Offered: Autumn

Prerequisite(s): No previous coding experience required. A Python boot camp will be held at the beginning of the quarter to teach the coding skills necessary to succeed in the course. Open to Advanced Undergraduates with Instructor Permission. Equivalent Course(s): PSYC 40460, MACS 40400, CHDV 40404

#### MAPS 41500. MA Research Methods. 100 Units.

This in-person course will foster the development of the students' scholarship through regular interaction with their preceptors. In this course, students will work with preceptors to both synthesize the individualized coursework into a cohesive curriculum and to plan and execute the MA thesis, from choosing research questions, selecting an appropriate research design, elaborating their chosen methodology, conducting research, and writing up their results. Instructor(s): John Hansen, Michael Albertus, James Evans Terms Offered: Autumn Spring Winter Equivalent Course(s): MACS 41500, INRE 41500

#### MAPS 46460. Disability in Local and Global Contexts. 100 Units.

This is a course about intersections. Disability cuts across age, gender, class, caste, occupation, and religion- or does it? By some measures, people with disabilities are the largest minority group in the world today. In this course, we critically examine both the experiences of people with disabilities in a global context as well as the politics and processes of writing about such experiences. Indeed, questions of representation are perhaps at the core of this course. What role have the United Nations Declaration on the Rights of Persons with Disabilities and international organizations such as the United Nations, the World Health Organization, and other non-governmental social and human service agencies played in the creation of specific understandings of disability experience? We will ask whether disability is a universal category and we will consider how experiences of health, illness, disability, and debility vary. We will engage in 'concept work' by analyzing the relationships between disability and impairment and we will critically evaluate the different conceptual and analytical models employed to think about disability. In doing so, we will engage with broader questions about international development, human rights, the boundaries of the nation, the family and other kinship affiliations, and identity and community formation. How is disability both a productive analytic and a lens for thinking about pressing questions and concerns in today's world?

Instructor(s): M. Friedner Terms Offered: Winter

Equivalent Course(s): HLTH 24302, CHDV 25250, ANTH 24302

#### MAPS 47501. Anthropology of Olympic Sport. 100 Units.

If cultural differences are as powerful as Anthropology has conventionally stressed, how is it possible that over 200 national and innumerable sub-national and transnational cultural formations have found common cause in the modern Olympic Games? This course explores, theoretically and historically, the emergence of the Olympic Games as the liturgy of the world system of nation states and the current dialectic between the Olympic Movement and the Olympic Sports Industry. Extensive reading and an independent research paper will be required.

Instructor(s): John MacAloon Terms Offered: This course was offered Winter 2020 Equivalent Course(s): ANTH 30420, ANTH 20420, SOSC 25090
## MAPS 49856. Mobilities. 100 Units.

This course considers the 'mobilities turn' in anthropology and other social sciences through an engagement with foundational mobility studies literature as well as close readings of ethnographies of and about mobilities. We will consider mobilities in relation to people, places, and objects and we will look at a range of sites. What does a consideration of mobility enable both theoretically and empirically? What is the connection between mobility, change, and political, social, and economic (re)production?

Instructor(s): M. Friedner Terms Offered: Winter

Prerequisite(s): Undergraduates with consent of instructor.

Note(s): CHDV Distribution: 2\*

Equivalent Course(s): ANTH 45625, CHDV 49856

# Courses ECMA

### ECMA 30770. Decision and Strategy. 100 Units.

ECON 20700 or 30770 may be used as an economics elective, but only one may be used toward degree requirements. This course provides a formal introduction to game theory with applications in economics. We will study models of how individuals make decisions, and how those decisions are shaped by strategic concerns and uncertainty about the world. The topics will include the theory of individual choice, games of complete and incomplete information, and equilibrium concepts such as Nash equilibrium. The applications will include oligopoly, auctions, and bargaining. The course is appropriate for advanced undergraduates who are interested in a rigorous mathematical approach to understanding human behavior. Instructor(s): B. Brooks Terms Offered: Winter

Prerequisite(s): Prerequisites for Undergraduates: ECON 20100/ECON 20110 and MATH 20300/MATH 20310/MATH 20700, or consent of instructor

# ECMA 30780. Decision and Strategy II. 100 Units.

We continue the formal introduction to decision theory and game theory begun in ECMA 30780, with a specific focus on models of incomplete information. Topics covered include subjective expected utility, Bayesian games, contract theory, and mechanism design. Among the applications we will consider are auctions, collusion, entry deterrence, and strategic communication. The course is appropriate for advanced undergraduates who are interested in a rigorous mathematical approach to decision making in strategic situations.

Instructor(s): B. Brooks Terms Offered: Spring

Prerequisite(s): ECMA 30770 or consent of instructor

### ECMA 30800. Theory of Auctions. 100 Units.

In part, this course covers the analysis of the standard auction formats (i.e., Dutch, English, sealed-bid) and describes conditions under which they are revenue maximizing. We introduce both independent private-value models and interdependent-value models with affiliated signals. Multi-unit auctions are also analyzed with an emphasis on Vickrey's auction and its extension to the interdependent-value setting.

Instructor(s): P. Reny Terms Offered: Winter

Prerequisite(s): PQ for Undergraduates: ECON 20100 (or Econ 20110), and MATH 20300 (or Math 20310 or Math 20700), and STAT 24400 (or STAT 24410)

### ECMA 31000. Introduction to Empirical Analysis. 100 Units.

This course is an introduction to applied econometrics. Students will obtain a theoretical and practical understanding of how to use a variety of tools in their own work. The first part of the course covers estimation and testing in the linear regression model. We begin the analysis under the Gauss-Markov assumptions, discuss problems that arise when these assumptions are violated and present some solutions. Topics include ordinary and generalized least squares and instrumental variables methods (IV/2SLS/GMM). The second part of the course will cover topics among: Binary Response, LASSO, Panel Data, Difference in Differences, Synthetic Controls, Identification of (Local) Average treatment effects, Regression Discontinuity, Nonparametric Regression. Assignments will include both theoretical questions and problems involving data. Necessary tools from linear algebra and statistics will be reviewed as needed.

Instructor(s): J. Hardwick Terms Offered: Autumn

Prerequisite(s): PQs for Undergraduates: Econ 21030 or Econ 21110 or Econ 21130

# ECMA 31130. Topics in Microeconometrics. 100 Units.

This course focuses on micro-econometric methods that have applications to a wide range of economic questions. We study identification, estimation, and inference in both parametric and non-parametric models and consider aspects such as consistency, bias and variance of estimators. We discuss how repeated measurements can help with problems related to unobserved heterogeneity and measurement error, and how they can be applied to panel and network data. Topics include duration models, regressions with a large number of covariates, non-parametric regressions, and dynamic discrete choice models. Applications include labor questions such as labor supply, wage inequality decompositions and matching between workers and firms. Students will be expected to solve programming assignment in R. Instructor(s): T. Lamadon Terms Offered: Autumn

Prerequisite(s): Prerequisites for Undergraduates: ECON 21020 OR ECON 21030

### ECMA 31340. Big Data Tools in Economics. 100 Units.

The goal of the class is to learn how to apply microeconomic concepts to large and complex datasets. We will first revisit notions such as identification, inference and latent heterogeneity in classical contexts. We will then study potential concerns in the presence of a large number of parameters in order to understand over-fitting. Throughout the class, emphasis will be put on project-driven computational exercises involving large datasets. We will learn how to efficiently process and visualize such data using state of the art tools in python. Topics will include fitting models using Tensor-Flow and neural nets, creating event studies using pandas, solving large-scale SVDs, etc.

Instructor(s): T. Lamadon Terms Offered: Autumn

Prerequisite(s): PQs for Undergraduates:ECON 20100/20110 and ECON 21020/21030



# Master of Arts in Middle Eastern Studies - Social Sciences

### Director

A. Holly Shissler

Deputy Director

Orit Bashkin

Deputy Director for Academic Programs

Paul E. Walker

Associate Director

Thomas E.R. Maguire

Project Assistant

- Benjamin Chametzky
- Outreach Coordinator and Director of the Middle East Education Initiative
- Krishna Kulkarni

The Middle Eastern Studies faculty are listed at http://cmes.uchicago.edu/.

The Center for Middle Eastern Studies offers an interdisciplinary Master of Arts program designed for students who wish to use their knowledge of the Middle East in carcers other than university teaching and research. The program is also suitable for students considering an academic career who have not had the appropriate academic background for direct entrance into a doctoral program. Language and area studies preparation may be supplemented by relevant course work in a professional school or department. Students may be admitted to the Master of Arts program in either the Division of the Social Sciences or the Humanities and will receive the degree from the division through which they have registered. Students with significant previous training in Middle Eastern or Islamic studies who wish to earn a doctoral degree leading to careers in research and college or university teaching should apply for admission directly to one of the graduate doctoral departments or committees of the University.

There are two tracks—modern and ancient—for the MA program in Middle Eastern Studies. The modern program covers the time period from the rise of Islam until the present. The ancient track, offered in collaboration with the faculty of the Department of Near Eastern Languages and Civilizations, focuses on the cultures and languages of the ancient Near East. The application process, degree requirements, and the rules and conditions for financial aid are similar for both programs.

## Admission

Applicants for the Master of Arts in Middle Eastern Studies are expected to meet the graduate admission requirements of the University and of the division to which they apply. In addition, applicants to the Middle Eastern Studies program must submit an academic writing sample. Foreign students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Students must enter the program in the autumn quarter. Although the program is designed for full time students, applications from those who can attend only on a part time basis will be considered.

# How to Apply Through the Division of the Social Sciences

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online (https://socialsciences.uchicago.edu/admissions/).

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

### Joint Program in Business Administration and Middle Eastern Studies

Benefiting from the combined strengths of the Center and the Graduate School of Business (http://

www.chicagobooth.edu/) -- one of the finest business schools in the country -- this three-year program helps students gain a firm grasp of the languages, history, and social institutions of the Middle East while acquiring the basic skills for careers in international business. To apply for the joint M.A. in Middle Eastern Studies/Masters in Business Administration, please click here (http://www.chicagobooth.edu/programs/full-time/admissions/).

# Joint Program in Public Policy and Middle Eastern Studies

This dual degree program addresses the needs of students wishing to acquire a solid background in modern Middle Eastern languages, history, and civilization while developing their abilities in policy analysis in preparation for professional careers in scholarly, educational, governmental, non-governmental, and business environments in the United States and abroad. This program requires approximately 5 quarters of study in the Center for Middle Eastern Studies and 4 quarters of study in the Harris School of Public Policy (http://harris.uchicago.edu/admissions-and-aid/). Applicants for the joint program must apply to both the Harris School (https://harris.uchicago.edu/) and the Division of the Social Sciences (https:// socialsciences.uchicago.edu/admissions/) separately.

### Program requirements

The requirements are satisfactory completion of:

- Six quarters of a Middle Eastern (ancient or modern) language (through at least two year proficiency);
- One quarter core colloquium: Approaches to the Study of the Middle East, or Approaches to the Study of the Ancient Near East;
- For the modern track, three quarters of an approved integrated Middle Eastern survey course; for the ancient track, three survey courses in the History, Archaeology and Cultures of the Ancient Near East (see below under "Core Courses");
- Seven courses in relevant electives;
- One course in thesis preparation, or reading and research;
- A master's thesis.

Only courses taken for a quality grade count toward fulfilling the requirements. No P or R grades will be accepted.

Elective courses may concentrate on one area or explore several of the fields of ancient or modern Middle Eastern studies such as, for example, Archaeology, Cuneiform Studies, Egyptology, Semitic linguistics, Arabic, Persian or Turkish literature, as well as related disciplines such as Art History, Anthropology, Classics, History, Linguistics, Political Science and Sociology.

## LANGUAGE

Placement interviews will be given so that entering students may register for courses at the appropriate level of instruction.

Students who elect to study Arabic will concentrate on the modern literary language. Students who elect to study Persian, Turkish, Uzbek, Armenian, or Hebrew will concentrate on the modern and contemporary idiom. Ancient track students may take Akkadian, Egyptian (Ancient), Hebrew (Classical), Hittite, and Sumerian.

### CORE COURSES

For the modern track MA, all students are required to take the core colloquium Approaches to the Study of Middle East (CMES 30001). Students must enroll in one of the following three quarter sequences: Islamic History & Society (NEHC 31000, 31100, 31200/HIST 35704, 35804, 35904), or Islamic Thought & Literature (NEHC 30601, 30602, 30603/ SOSC 22000, 2210), 2220). For the ancient track MA, students are required to take the core colloquium Approaches to the Study of the Ancient Near East and must enroll in at least three survey courses in the History, Archaeology and Cultures of the Ancient Near East, covering at least three different geographic areas (Egypt and Nubia; Mesopotamia; Anatolia; the Levant; Iran; etc.). Relevant courses are listed on the website of the department of Near Eastern Languages and Civilizations (https://nelc.uchicago.edu/courses()) at the beginning of each academic year. These courses should be chosen in consultation with the Graduate Advisor for the CMES Ancient Track MA.

### ELECTIVES

In consultation with advisers, students select courses providing instruction in skills related to their future careers. These courses may be in research methodology; statistics; cross cultural, demographic, or economic analysis; or computer training. They may be selected from the offerings of departments in the graduate divisions, such as the Departments of Economics, Statistics, or Sociology; or of the professional schools, such as the Graduate School of Business, the Law School, the Harris School of Public Policy Studies or the School of Social Service Administration.

Students are strongly encouraged to consider participating in the University Writing Program (Little Red Schoolhouse).

### COURSES

Consult in the Announcements and the quarterly Time Schedules the listings of the Departments of Art History, Anthropology, English Language & Literature, History, Music, Near Eastern Languages & Civilizations, Political Science, Sociology, South Asian Languages & Civilizations, and the Committee on Geographical Studies.

## MASTER'S THESIS

Students are required to submit a master's thesis that should deal with a problem relevant to the student's intended career and should give evidence of the specialized disciplinary aspects of his or her training. The student's program adviser and a faculty member with special interest in the subject of the paper will guide the research and writing of the paper and judge whether it exhibits proof of competence in the field. During the writing of the paper, the student will register for a thesis preparation or reading and research course. The thesis title will be listed on the student's transcript.



# Department of Anthropology

Chair

William T.S. Mazzarella

Professors

- Shannon Dawdy
- Michael Dietler
- Susan Gal
- John D. Kelly
- Karin Knorr Cetina, Sociology
- Alan L. Kolata
- Joseph P. Masco
- William T.S. Mazzarella
- Stephan Palmié
- Michael Silverstein
- Kaushik Sunder Rajan
- Russell H. Tuttle

Associate Professors

- Hussein Ali Agrama
- P. Sean Brotherton
- Julie Y. Chu
- François G. Richard
- Justin B. Richland
- Alice Yao

Assistant Professors

- Michael Fisch
- Darryl Li
- Constantine Nakassis
- Mareike Winchell

Provost's Postdoctoral Fellow

Ryan Jobson

Lecturer

- Maria Ceclia Lozada Cerna
- Emeritus Faculty
- Manuela Carneiro da Cunha
- Judith B. Farquhar
- James W. Fernandez
- Raymond D. Fogelson
- McKim Marriott
- Nancy D. Munn
- Ralph W. Nicholas
- Marshall D. Sahlins

Anthropology seeks an understanding of human nature, society, and culture in the widest comparative and historical framework. The department's teaching program provides Ph.D. training for research workers and teachers in the various branches of anthropological science. Lectures, tutorial guidance, laboratory instruction, and research seminars provide opportunities for advanced study in sociocultural and linguistic anthropology and archaeology. Course work, but not a graduate degree program, is also offered in physical anthropology.

The purpose of the department is the advancement of anthropological research; this goal is achieved in the graduate program by the development of creative scholars and scientists. The various educational guidelines that are established from time to time by the department as a whole as well as by the particular specialized fields are intended to aid in this

development. All programs, however, are designed to be adaptable to the specific needs and research interests of individual students. Graduate students are encouraged to go forward as rapidly as previous preparation and special powers permit. The identification of specific research problems and the pursuit of these problems through the writing of original papers are skills that are emphasized and fostered as early as possible. This experience develops gradually into the substantial research project that is undertaken for the doctorate.

Graduate students and faculty in the department regularly participate in a large number of interdisciplinary workshops. Some are regional (e.g., African Studies; Latin America and the Caribbean; U.S. Locations; Art and Politics of East Asia; East Asia: Politics, Economy and Society; East Asia: Transregional Histories; Interdisciplinary Approaches to Modern France and the Francophone World; Latin American History; Middle East History and Theory; Theory and Practice in South Asia; and Visual and Material Perspectives on East Asia), some thematic (e.g., Interdisciplinary Archaeology; Ancient Societies; City, Society, and Space; Self and Subjectivity; Education; EthNoise!: Ethnomusicology; Gender and Sexuality Studies; Human Rights; Mass Culture; Knowledge/Value; Race and Religion; Reproduction of Race and Racial Ideology; Semiotics: Culture in Context; and Social History), and some theoretically oriented (e.g., Contemporary Philosophy; History, Philosophy and Sociology of Science; Political Theory; Social Theory).

Graduate students beyond the first year may serve as course or laboratory assistants, and later, as lecturers in College programs. The department also awards Starr Lectureships each year, on a competitive basis, to advanced graduate students. Starr Lecturers teach courses on their areas of specialization in the anthropology concentration in the College.

For additional information about the Department of Anthropology and the interests of its faculty members, please see: http://anthropology.uchicago.edu/

# How to Apply

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: https://apply-ssd.uchicago.edu/apply/

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Foreign students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

### Programs of Study

#### Sociocultural and Linguistic Anthropology

Sociocultural anthropology is concerned with the investigation of human society, culture, and the human relation to nature through intensive ethnographic investigation and wide ranging comparison. It is closely related to the other generalizing social sciences and to the interpretive disciplines of the humanities. Cross disciplinary study is encouraged; graduate students in anthropology often include courses from related fields in their programs.

The Ph.D. program in sociocultural and linguistic anthropology has three prefield phases, each normally designed as one year's work, although under certain circumstances accelerated progress through the later phases is possible.

Phase I introduces the student to the development of social and cultural theory and to the scholarly interests of the faculty in the department. First year students also take courses in particular specialist areas of ethnography and theory in order to frame research interests in preparation for the dissertation project. Course requirements in the first year include The Development of Social and Cultural Theory (two double courses) and Introduction to Chicago Anthropology. In addition students take four other courses dealing with their areas of interest selected in consultation with the first year advisor. The requirements of Phase I apply to all entering graduate students, regardless of whether they hold a master's degree in anthropology from another institution.

Phase II training is directed toward acquiring a deeper knowledge of the special area and theoretical topics on which research will be focused, as well as toward obtaining a broader anthropological understanding in preparation for the Ph.D. qualifying examination. With the exception of those whose master's theses from elsewhere are approved by the department, every second year student completes a master's paper during that year. The Ph.D. qualifying examination is normally taken during the spring of the second year or the autumn of the third year. The department also requires all students in sociocultural and linguistic anthropology to take the course in Anthropological Research Methods and to demonstrate competence in a foreign language by achieving a High Pass on a University foreign language examination, preferably by the end of the second year. The language will be specified by the student's advisory committee. (A foreign language is required only for the Ph.D. degree. No foreign language is required for the M.A.)

Phase III is a pre research training period during which the student hones a dissertation proposal and grant applications and develops advanced research skills. Upon fulfillment of all pre dissertation academic requirements and the acceptance of the dissertation proposal at a hearing in the department, the student is admitted to candidacy for the Ph.D. degree and proceeds to research and/or field work and the writing of the dissertation.

The linguistic anthropologist is concerned with phonetic, phonological, grammatical, semantic, and paralinguistic systems and with their relations to social, cultural and personal ones. A student who chooses linguistic anthropology as the major sub field within the Department of Anthropology should prepare at least one sub field each in linguistics and

anthropology and satisfy the language requirement. Students of linguistic anthropology are generally advised to take at least six courses in technical linguistics.

#### Joint Degree in Anthropology and Linguistics

In addition to linguistic anthropology as a sub field within the Department of Anthropology, there is also a joint Ph.D. program available to students who are admitted first to the Department of Anthropology and subsequently to the Department of Linguistics. Joint degree students complete the requirements of both departments, including distinct introductory and advanced courses stipulated by each, the departmental qualifying examinations in appropriate special fields, and the language requirements, including additional foreign languages for the Linguistics Ph.D. The student's dissertation advisory committee consists of three or more members of the faculty; at least one must be a member of the Department of Anthropology but not the Department of Linguistics, and at least one in Linguistics but not in Anthropology. After approval for hearing by the advisory committee, the student's dissertation proposal must be approved in a hearing open to the faculty of both departments, and similarly for the final defense of the single doctoral dissertation that the student writes.

Admission to the Joint Degree Program in Anthropology and Linguistics cannot be approved until at least the second year, after successful completion of the core (first year) coursework and examinations in Linguistics, although students should declare interest in the joint program on the graduate application and to the chair of the Department of Anthropology and to the linguistic anthropologists soon after arriving on campus.

#### Archaeology

The archaeology program emphasizes the comparative study of complex societies throughout the world grounded in a close articulation of archaeology, history and sociocultural anthropology. The program stresses the integration of social and cultural theory in the practice of archaeology and, in particular, forges strong links with the historical anthropology that is one of the recognized strengths of the department. In addition to preparing archaeology students for anthropologically informed fieldwork and interpretation, an important element of this interdisciplinary approach is the inauguration of a training program offering students the methodological skills and theoretical grounding necessary to undertake innovative ethnoarchaeological research.

Current faculty strengths include archaeology of Latin America (focusing on the later prehistory and colonial periods of the Andes and Mesoamerica), the United States (focusing on the historical/urban archaeology of New Orleans and Birmingham, creole societies, race and ethnicity, material culture), Europe (from the Paleolithic to the Celtic Iron Age), and China and mainland southeast Asia (Bronze age, imperialism, cross cultural interactions) as well as ethnoarchaeology in Africa and experimental archaeology in South America. Associated faculty at the Oriental Institute and in other University departments specialize in complex societies of the Near East, Egypt, Greece, Rome, India, and China.

Research interests include: urbanism, state formation, imperialism, colonial interaction, industrialization, art and symbolism, spatial analysis, politics, ritual and religion, human environment interactions, agricultural systems, material culture, economic anthropology, political economy and the socio historical context and politics of archaeology. Faculty members in archaeology have major, ongoing field research projects in Bolivia, Peru, France, Spain, Cambodia, China, Senegal, and the southern & southeastern United States and also have research interests in Kenya.

The archaeology program requires that students complete a total of 18 courses to qualify for the Ph.D., some of which may be reading and research in the field of specialization. Students normally enroll in nine courses per year during their first two years in the program. Within the first two years, students will complete five required courses that are designed to provide a comprehensive grounding in social and cultural theory, as well as the theory and specific methods of archaeology. (A foreign language is required only for the Ph.D. degree. No foreign language is required for the M.A.)

In the first year, course requirements include The Development of Social and Cultural Theory offered over the autumn and winter quarters. The two quarter sequence is equivalent to four course credits. In the spring archaeology students take Theory and Method in Archaeology, also a double credit course. The remaining course requirements in the program, to be met in the first or second year, are Introduction to Chicago Anthropology, and a quantitative methods course approved by the faculty. For the rest of their course work, students enjoy a broad range of elective courses in archaeology, sociocultural anthropology, history, physical anthropology, Classical or Near Eastern studies, statistics, computer science and geophysical sciences. In addition, archaeology students are strongly encouraged to gain technical experience in one of the university's regular summer field schools or other research excavations.

By the end of the first year in residence, the archaeology student must form an advisory committee of three faculty members. The committee will be chaired by the faculty member of the student's choice. With the exception of those students with A.M. theses from other institutions which are approved by the department, each student will complete an A.M. paper during the second year. In addition, by the end of year two, each student takes an written and oral examination from the members of his/her advisory committee in the areas of chosen specialization. The oral examination, lasting roughly an hour and a half, is designed to test basic command of the literature and methods necessary to pursue Ph.D. research in a chosen area. In the third year, having passed the qualifying exam, archaeology students are required to take the archaeological research design seminar. By the end of the third year, students must defend a dissertation proposal before the faculty and interested students. Upon fulfillment of all academic requirements and the acceptance of the dissertation proposal, students are admitted to candidacy for the Ph.D. degree.

# Physical Anthropology

Courses in physical anthropology, mainly directed towards evolutionary anthropology and primatology, are offered in the department; but applications for graduate study in Physical Anthropology are no longer accepted.

# Courses

The department website offers descriptions of graduate courses scheduled for the current academic year: https:// anthropology.uchicago.edu/graduate-programs/courses (https://anthropology.uchicago.edu/graduate-programs/courses (https://anthropology.uchicago.edu/graduate-program



# Department of Comparative Human Development

### Chair

Jennifer Cole

# Professors

Susan Goldin-Meadow Sydney Hans Guanglei Hong Susan Levine Dario Maestripieri Richard Shweder

Margaret Beale Spencer

### Associate Professors

Micere Keels Jill Mateo Eugene Raikhel

# Assistant Professors

Abdelhadi, Eman\* Marisa Casillas Michele Friedner

\*Provost Postdoctoral Fellow 2020-2021

### **Faculty Associates**

Kathleen Cagney E. Summerson Carr Robert Gibbons Don Hedeker Salikoko Mufwene Constatine Nakassis Kristen Schilt Linda Waite Amanda Woodward

# **Emeritus Faculty**

R. Darrell Bock Mihaly Csikszentmihalyi Irene Elkin Ray Fogelson William Goldstein John A. Lucy Martha K. McClintock David E. Orlinsky Nancy Stein Susan Stodolsky Richard Taub Judith Farquhar

The Department of Comparative Human Development is an interdisciplinary program at the critical edge of thought and research in the social sciences. Its faculty believe that social life is too complex and too exciting to be left within any single discipline. Consequently, we bring together anthropologists, biologists, linguists, psychologists, sociologists and methodologists whose methods and theories cross individual social science disciplines. We aim to advance the understanding of human development through innovative approaches that are balanced with the need for productive synergy and a coherent training program.

Faculty and students' current research examines issues of central concern to life course development, education, health, family, community, and society at large. We examine the ways social and political contexts as well as cultural and ethnic traditions shape individual and interpersonal functioning, the interplay between individual trajectories and broader processes of historical transformation, the mechanisms integrating biological and social levels of organization, and the cultural, linguistic, and psychological processes that mediate representations of and responses to vulnerability and distress. In addressing those issues, we highlight shifting categories such as race, class, nationality, age, gender, sexuality, and ability.

Our research is informed by theoretical perspectives from a plethora of interdisciplinary fields. These include sociocultural anthropology, medical anthropology, medical sociology, behavioral biology, biopsychology, language and thought, cognitive and developmental psychology, cultural psychology, cultural sociology, social psychology, educational psychology, and educational sociology. We employ a multitude of research methods ranging from experiments, surveys, network analysis, causal inference, to ethnography and discourse analysis. Some current research programs include the impact of globalization and other major societal transformations on family relationships and the transition to adulthood, the relation of language to thought, the health consequences of social experiences, cultural politics of gender and sexual identity, models of biopsychological development, the nature of the self, the ethical and moral issues raised by increasingly multicultural societies, variations in the process of teaching, learning, and socialization in educational settings and beyond, and methods for investigating causality.

*Comparative*: To understand is to compare. 'Comparative' means attention to likeness and difference. Work in the Department looks at how practices, ideologies, capabilities, behaviors, and experiences vary across time, between cultures, between demographic groups, between political and economic contexts, and between species.

*Human*: What makes us human? Research in the Department explores the socio-cultural, psychological and biological processes that humans share with, and that distinguish them from, each other and from non-human animals.

**Development**: This complex and vexed term highlights change over time. It raises debates about cultural values and provokes disagreement about desired states. Work in the Department critically examines understandings about development in relation to both individuals and societies, and it analyzes practices and policies that may promote or prevent it.

Students in the Department have pursued innovative and successful careers in anthropology, biology, education, human development, psychology, sociology, and quantitative research methodology.

### Information on How to Apply

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: https://apply-ssd.uchicago.edu/apply/

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

### Human Development Requirements

# Terms:

3.

Required - Every Comparative Human Development Graduate Student must take this course

Distribution - Students need to take at least one qualified course in each of the 5 Graduate areas

Specialization - Students must take two additional courses in one of the 5 areas in which they wish to focus their studies

Every CHD student must take the following courses for a quality grade (12 courses total):

- 1. CHDV 40000 HD Concepts (Required)
- 6 distribution courses, one in each program area: (Comparative Behavioral Biology; Society, Institutions, Culture and the Life Course; Cultural Psychology, Psychological Anthropology, Immigration Studies; Health, Vulnerability and Culture; Language and Communication in Thought and Interaction; Methods in Human Development Research)
  - Comparative Behavioral Biology (1)
  - Society, Institutions, Culture and the Life Course (2)
  - Cultural Psychology, Psychological Anthropology, Immigration Studies (3)
  - Health, Vulnerability and Culture (4)
  - Language and Communication in Thought and Interaction (5)
  - Methods in Human Development Research (M)
  - Applied Statistics (one course requirement) from among the following :

PPHA 31000	Statistics for Public Policy I (**)	100
PPHA 31100	Statistics for Public Policy II (**)	100
SOCI 30004	Statistical Methods of Research	100
SOCI 30005	Statistical Methods of Research-II	100
STAT 22400	Applied Regression Analysis	100

(\*\*) Both courses must be taken in sequence to fulfill requirement

4. CHDV 42401 Trial Research in Human Development I and CHDV 42402 Trial Research in Human Development II (Required).

5. Two additional CHD courses in chosen area of specialization. If Methods in Human Development Research is your area of specialization, you must choose an additional area of specialization to take two courses in.

Students are not required to complete all these requirements by the end of their second year. However, they must have five quality grades by the end of spring of their first year, and ten quality grades by the end of the second year. A grade of B or better is required to satisfy the requirements of these courses. On average a graduate student should take at least two courses for quality grades in each quarter of their first two years. In addition, students will participate in elective courses and workshops in the department, and the University in consultation with their advisors.

### Required Courses

CHDV 40000 HD Concepts will introduce students to the history, theoretical bases, and major areas of inquiry in the Department of Comparative Human Development. This course is taken during the fall quarter of the first year.

The seminars (CHDV 42401 Trial Research in Human Development I and CHDV 42402 Trial Research in Human Development II) will launch students into their research projects and will guide them from the beginning to the completion of those projects. The seminar is taken in the spring quarter of the first year and the fall quarter of the second year. Trial Research papers are due by the beginning of the spring quarter of the second year. The trial research project must be completed and formally approved by the faculty during the spring quarter of the student's second year, then presented at the student Trial Research Conference. Students are expected to report regularly on the progress of their research to the trial research seminars. The trial research is carried out under the direction of the research advisor and is read by one other faculty member.

The one-course requirement in methods is meant to provide the students with the basic quantitative analytic skills necessary to understand and evaluate past research and to conduct research. This requirement should be met within the first two years.

In addition, students will participate in elective courses in the Department and the University and are encouraged to participate in workshops outside the Department in consultation with their advisors.

A quality grade of B or better is required to satisfy the requirements of these courses. Students are expected to maintain an average of B+ or better. A student may petition courses to meet a needed requirement. A student who can demonstrate basic competence in the core curricular areas may petition the faculty through the Chair's office to place into an advanced course in the same area. A well-qualified student may place out of intermediate statistics by examination provided by the instructor of the statistics course.

Although students are not required to complete their course requirements by the end of their second year, a student must have received five quality grades by the spring of the first year, and ten quality grades by the end of the second year. On average a graduate student should take at least two courses for quality grades in each quarter of their first two years.

### Program Counseling

Each student is given faculty assistance in (1) planning a program of courses and training; (2) fulfilling the Divisional and Departmental steps leading to the Ph.D. degree; (3) obtaining a professional position after graduation. Each entering student is assigned to a faculty advisor who will serve until the student chooses a research advisor.

Every student must have an advisor. The CHD Chair will assign an advisor to entering students. As students progress through the program and define their interests, they may wish to change advisors in line with their research activities. The Department Administrator should be informed in writing of such changes. The faculty should be actively consulted in connection with registration and other academic matters.

### Evaluations

All students are evaluated each year in the program. To be considered in good standing and for continuation of financial aid, first and second year students must have earned at minimum five quality grades (B or better) over autumn and winter quarters during the year by the time of the spring review, with satisfactory spring grades expected to follow.

First - fourth year students should schedule a meeting with the departmental administrator within the first two weeks of May to review their transcript, grades and status of the fulfillment of distribution requirements.

Each student will be formally evaluated early in the Spring quarter of their second year. The purpose of the evaluation will be to determine if the student is to be allowed to continue studies leading to the Ph.D. degree or is instead to be awarded a terminal M.A. degree. Financial aid recommendations will also be based on this review.

Three sets of data will be used to evaluate each student: course grades, faculty evaluations, and a Trial Research paper.

1. Course grades received by each student will be a part of the evaluation process. Given their special relevance, the CHD distribution courses must be taken for letter grades. Three of the five required distribution courses must be completed by the end of the winter quarter of the second year. All five must be completed by the end of the spring quarter of that year.

- Faculty members who have worked with the student will be asked for their evaluation of the student. Students
  who have worked with non-CHD faculty may request the faculty member to submit a letter about them to the CHD
  evaluation committee.
- 3. The CHD evaluation committee will be responsible for collecting the evaluation data, conducting a preliminary review, and then presenting the data and their review for the consideration of the entire faculty. During the spring quarter of each year, the faculty, after reviewing the materials on each second-year student, will vote to award the student a terminal M.A. degree or to advance the student to further Ph.D. study.

# Workshops

Doctoral students are required to attend the Department's colloquium. In addition, the University's Council on Advanced Studies oversees a series of interdisciplinary workshops, each of which reflects the research interests of a particular group of faculty members and graduate students. The following workshops are sponsored by faculty members and organized by graduate students from the Department of Comparative Human Development (often in collaboration with faculty and students from other departments): Comparative Behavioral Biology; Self and Subjectivity; Education. A full list of workshops is available at http://cas.uchicago.edu/

## Program of Study

The program of study is in many respects unique for each student. In addition to a basic program of courses, it includes other courses and seminars offered by the Comparative Human Development faculty, courses offered in related programs and departments in the University, and the resources of nearby institutions.

# Comparative Behavioral Biology (1)

This area of study investigates behavioral and mental processes at the social, psychological and biological levels of organization in both humans and nonhuman animals. Current research is concentrated in three main areas. In the area of behavioral and reproductive endocrinology, research conducted with rodents and humans investigates the social and behavioral control of fertility and health and the role of hormone-behavior interactions in development throughout the life span. Specific topics of interest include mechanisms and function of menstrual synchrony, pheromonal communication, reproductive senescence, and the social behavioral modulation of aging and illness. In the area of comparative development, we use nonhuman primate and rodent models of parenting and development to investigate social, emotional, and endocrine aspects of mother infant attachment and infant development, with particular emphasis on interindividual variability both within and outside the normal range. Other topics of interest include affiliative and aggressive behavior, mating strategies, nonverbal communication and social cognition in rodents, primates and humans. In the area of social neuroscience, one topic of interest is evaluative processes, e.g., affective, attitudinal, or emotional operations by which individuals discriminate hostile from hospitable environments. Of interest as well is in the role of social and autonomic factors in individuals endocrine and cellular immune response to stress and illness *Lample courses* listed below have been offered in this academic year.

CHDV 30901	Biopsychology of Sex Differences *	100
CHDV 37500	Research Seminar Animal Behavior I **	100
CHDV 37502	Research Seminar in Animal Behavior II **	100
CHDV 37503	Research Seminar in Animal Behavior III **	100
CHDV 37861	Darwinism and Literature *	100
CHDV 37950	Evolution and Economics of Human Behavior	100
CHDV 40900	Behavioral Ecology *	100
CHDV 41451	Evolutionary Psychology	100
CHDV 48412	Publications, Grants, and the Academic Job Market *	100

(\*) Satisfies the distribution requirement.

(\*\*) All three quarters of sequence must be taken in order to receive a letter grade.

# Society, Institutions, Culture and the Life Course (2)

The Department has a long tradition of examining "development" not just in childhood, but over the entire life course. A basic premise of our approach is that how people change over their lives is shaped by, and also shapes, social institutions, cultural practices, material circumstances and biological potential. We are also interested in how normative models of human development become institutionalized, materialized, and potentially contested as they travel across different cultural or economic settings. Some current areas of research include the influence of families, peers, schools, and neighborhoods on individual trajectories and outcomes; the role of youth and generational change in contemporary social life; and how early exposure to social and psychological deprivation or privilege due to educational and economic inequality contributes to subsequent vulnerability or resilience. A particular strength of the Department is the study of how children learn in school settings and the role of gesture in learning and cognition. Faculty focused on education have unique expertise in the quantitative analysis of large data sets to examine how changes in social policies or school-based interventions generate impacts on a series of developmental experiences associated with age, gender, race/ethnicity and social class. We also

seek to develop new experimental and qualitative methods that assess the relationship between cognitive competence and interaction in instructional settings. Faculty and students interested in life-course issues also engage in cross-cultural research in places as diverse as Madagascar, Mexico, and India. *Example courses* listed below have been offered in previous years but may not be offered in this academic year.

CHDV 30305	Inequality in Urban Spaces	100
CHDV 30440	Inequality, Health and the Life Course	100
CHDV 31000	Cultural Psychology *	100
CHDV 31230	Stigma Lab	100
CHDV 31600	Introduction to Language Development	100
CHDV 31901	Language, Culture, and Thought *	100
CHDV 32100	Culture, Power, Subjectivity	100
CHDV 32101	Culture and Power, Part II: Discourse and Performativity	100
CHDV 40207	Development in Adolescents *	100
PSYC 43200	Seminar in Language Development (=CHDV 41601)*	100
CHDV 48412	Publications, Grants, and the Academic Job Market *	100

(\*) Satisfies the distribution requirement.

### Cultural Psychology, Psychological Anthropology, Immigration Studies (3)

Coming to terms with transnational migration and defining the scope and limits of tolerance for ethnic, religious and cultural diversity in North America and Europe has become one of the most pressing concerns for states and citizens in liberal democracies in the 21st century. The Department has long been a leading center for training in psychological anthropology, cultural psychology, culture and mental health, and the cross cultural study of human development, with special attention to what the anthropologist Clifford Geertz once called "the force and durability of ties of religion, language, custom, locality, race, and descent in human affairs." Faculty and students investigate political, economic, as well as ethnic and cultural sources of diversity in emotional and bodily functioning, conceptions of disability, self and subjectivity, sexuality and gender identity, moral evaluation, and social cognition. We are also concerned with the social and political production and management of social differences as well as the conflicts that arise in the context of contemporary migration. Ethnographic field work both in the United States and abroad is an important component of this program, although students and faculty use multiple methods (qualitative and quantitative, observational, clinical and experimental) to understand the similarities and differences in psychological functioning across human populations. The program encourages the comparative social and cultural analysis of what people know, think, feel, desire and value in India, Japan, China, Russia, Africa and the Middle East, as well as research on the institutions, ideologies and economic circumstances that shape the experience of minorities in places ranging from Norway to France to the United States. Example courses listed below have been offered in previous years but may not be offered in this academic year.

CHDV 30117	Transnational Kinship, Intimacy and Migration	100
CHDV 30320	Violence and Trauma	100
CHDV 30401	Intensive Study of a Culture: Lowland Maya History and Ethnography	100
CHDV 31000	Cultural Psychology *	100
CHDV 31901	Language, Culture, and Thought *	100
CHDV 32100	Culture, Power, Subjectivity *	100
CHDV 32101	Culture and Power, Part II: Discourse and Performativity *	100
CHDV 33301	Culture, Mental Health, and Psychiatry *	100
CHDV 33302	Disordered States	100
CHDV 42212	Love, Capital and Conjugality in Africa and India	100
CHDV 43600	Processes of Judgement and Decision Making	100
CHDV 44700	Seminar: Topics in Judgment and Decision Making	100
CHDV 45601	Moral Psychology & Comparative Ethics	100
CHDV 45699	When Cultures Collide: Multiculturalism in Liberal Democracies $*$	100
CHDV 48415	Displaced Nations and The Politics of Belonging	100
CHDV 48412	Publications, Grants, and the Academic Job Market *	100

(\*) Satisfies the distribution requirement.

### Health, Vulnerability and Culture (4)

The Department maintains a tradition of examining health, illness, disability, and vulnerability from a variety of social science perspectives. We understand health, illness, disability, and vulnerability as experiences that are deeply shaped by inter-related social, political-economic, and psychobiological processes. We are also committed to the idea that how human beings experience distress is inextricable from the ways in which we recognize, represent and respond to it. We are

thus equally concerned with the biosocial mechanisms through which health, illness, disability, and vulnerability become embodied in particular persons, as we are with the cultural and linguistic processes through which concepts such as "health," "illness," "disability," and "vulnerability" are produced, enacted, institutionalized and contested. A particular strength of our program is the study of mental health and illness and of psychiatry as a social institution. Current areas of research include culture and mental health; the comparative study of medical and healing systems; psychopathology and resilience across the life course; the psychosocial determinants of malignant and infectious disease; diffusion of suicide through social ties, disability and vulnerability as conditions of ethical and political life; colonialism and traumatic social memory; the social consequences of the neurosciences and genetics; and illness, subjectivity and embodiment. Faculty and students employ a range of ethnographic, experimental and epidemiological methods, and have carried out fieldwork in settings including China, France, India, Madagascar, Russia, Scandinavia and the United States. *Exa*mple *courses* listed below have been offered in previous years but may not be offered in this academic year.

CHDV 30320	Violence and Trauma	100
CHDV 30405	Anthropology of Disability	100
CHDV 31230	Stigma Lab	100
CHDV 33301	Culture, Mental Health, and Psychiatry *	100
CHDV 33305	Critical Studies of Mental Health in Higher Education	100
CHDV 36400	Theories of Emotion and the Psychology of Well Being $*$	100
CHDV 40110	Color, Ethnicity, Cultural Context, and Human Vulnerability	100
CHDV 43770	Social Structure, Culture, and Human Development *	100
CHDV 44200	Emerging Concepts in Medical and Psychological Anthropology	100
CHDV 45205	Pushing The Boundary: Current Debates On Animals and The Species Divide	100
CHDV 46460	Disability, Dependency, and the Good Life	100

(\*) Satisfies the distribution requirement.

# Language and Communication in Thought and Interaction (5)

This area of study supports research and training on how language and other forms of social communication support and shape individual thought and social interaction. The program encompasses three intersecting areas. First, it compares communicative modalities across species, especially among the social mammals, with particular attention to the role played by language in human evolution and development by enabling the emergence of self, culture, and conceptual thought. Second, it compares linguistic and other communicative traditions across human societies with respect to their effects on thought and interaction, with particular attention to the impact of language diversity, multilingualism, the interplay of verbal and nonverbal communication, and language socialization. And third, it compares both within and across societies the various specialized structures and discursive uses of language deployed within specialized institutional settings and ideological regimes such as education, therapy, science, religion, politics, etc. Across all three areas, there is an emphasis on bringing together a firm grounding in the formal analysis of the communicative modalities with substantive understanding of the psychological and social fields within which they operate. *Example courses* listed below have been offered in previous years but may not be offered in this academic year.

CHDV 23900	Introduction to Language Development *	100
CHDV 31901	Language, Culture, and Thought *	100
PSYC 43200	Seminar in Language Development (=CHDV 41601)*	100
CHDV 43550	Gesture	100
CHDV 45501	Cognition and Education *	100
CHDV 53350	Gesture, Sign, and Language	100

(\*) Satisfies the distribution requirement.

# Methods in Human Development Research (M)

Research on human development over the life span and across social and cultural contexts thrives on multiple theoretical perspectives. This research requires creation and improvement of a wide range of research methods appropriately selected for and tailored to specific human development problems. Faculty in the department employ research methods that span the full range from primarily qualitative to primarily quantitative and to strategic mix of both. Across all the substantive domains in Comparative Human Development, theoretical understanding is greatly advanced by methodology; therefore the Department pays serious attention to research design, data collection, analytic strategies, and presentation, evaluation, and interpretations of evidence. The Department has contributed some of the most influential work on psychological scaling on the basis of the item response theory (IRT), multivariate statistical methods, causal inference methods for cross-cultural analysis. Current research interests include (a) assessment of individual growth and change in important domains of development that are often intertwined, (b) examination and measurement of the structure, process, and quality of individual and group experiences in institutionalized settings such as families, schools, clinics, and neighborhoods, and (c) evaluation of the impact of societal changes or interventions on human development via changes in individual and group experiences, with particular interest in the heterogeneity of growth, process, and impact across demographic sub-populations and across

social cultural contexts. *Example courses* listed below have been offered in previous years but may not be offered in this academic year.

CHDV 30102	Introduction to Causal Inference *	100
CHDV 39301	Qualitative Research Methods	100
SOCI 40112	Ethnographic Methods	100
CHDV 43248	Research Methods in Behavior and Development	100

(\*) Satisfies the distribution requirement.

# 2020-2021 Offerings

The courses below are a guide. For up-to-date course plans, please visit Class Search (http://registrar.uchicago.edu/ classes/) or the Course List at humdev.uchicago.edu/page/courses (http://humdev.uchicago.edu/page/courses/)

### CHDV 30102. Introduction to Causal Inference. 100 Units.

This course is designed for graduate students and advanced undergraduate students from the social sciences, education, public health science, public policy, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The goal of this course is to equip students with basic knowledge of and analytic skills in causal inference. Topics for the course will include the potential outcomes framework for causal inference; experimental and observational studies; identification assumptions for causal parameters; potential pitfalls of using ANCOVA to estimate a causal effect; propensity score based methods including matching, stratification, inverse-probability-of-treatment-weighting (IPTW), marginal mean weighting through stratification (MMWS), and doubly robust estimation; the instrumental variable (IV) method; regression discontinuity design (RDD) including sharp RDD and fuzzy RDD; difference in difference (DID) and generalized DID methods for cross-section and panel data, and fixed effects model. Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 is a prerequisite. This course is a prerequisite for 'Advanced Topics in Causal Inference' and 'Mediation, moderation, and spillover effects.' Instructor(s): G. Hong Terms Offered: Winter

Prerequisite(s): Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 Note(s): CHDV Distribution: M; M

Equivalent Course(s): PLSC 30102, MACS 51000, SOCI 30315, STAT 31900, PBHS 43201

### CHDV 30510. Computational Content Analysis. 100 Units.

A vast expanse of information about what people do, know, think, and feel lies embedded in text, and more of the contemporary social world lives natively within electronic text than ever before. These textual traces range from collective activity on the web, social media, instant messaging and automatically transcribed YouTube videos to online transactions, medical records, digitized libraries and government intelligence. This supply of text has elicited demand for natural language processing and machine learning tools to filter, search, and translate text into valuable data. The course will survey and practically apply many of the most exciting computational approaches to text analysis, highlighting both supervised methods that extend old theories to new data and unsupervised techniques that discover hidden regularities worth theorizing. These will be examined and evaluated on their own merits, and relative to the validity and reliability concerns of classical content analysis, the interpretive concerns of qualitative content analysis, and the interactional concerns of conversation analysis. We will also consider how these approaches can be adapted to content beyond text, including audio, images, and video. We will simultaneously review recent research that uses these approaches to develop social insight by exploring (a) collective attention and reasoning through the content of communication; (b) social relationships through the process of communication; and (c) social state

Instructor(s): James Evans Terms Offered: Spring Equivalent Course(s): SOCI 40133, MACS 60000

### CHDV 31000. Cultural Psychology. 100 Units.

There is a substantial portion of the psychological nature of human beings that is neither homogeneous nor fixed across time and space. At the heart of the discipline of cultural psychology is the tenet of psychological pluralism, which states that the study of 'normal' psychology is the study of multiple psychologies and not just the study of a single or uniform fundamental psychology for all peoples of the world. Research findings in cultural psychology thus raise provocative questions about the integrity and value of alternative forms of subjectivity across cultural groups. In this course we analyze the concept of 'culture' and examine ethnic and cross-cultural variations in mental functioning with special attention to the cultural psychology of emotions, self, moral judgment, categorization, and reasoning.

Instructor(s): R. Shweder Terms Offered: Autumn

Prerequisite(s): Undergraduates must be in third or fourth year.

Note(s): CHDV Distribution: B, C

Equivalent Course(s): CRES 21100, AMER 33000, PSYC 33000, CHDV 21000, PSYC 23000, ANTH 35110, GNSE 21001, GNSE 31000, ANTH 24320, EDSO 21100

# CHDV 31230. Stigma Lab. 100 Units.

The concept of stigma is mobilized to explain a wide range of practices and experiences both in scholarship and everyday life. In this course, we critically engage readings on stigma from across the social sciences in order to develop a genealogy of how the concept emerged. We then read a series of ethnographic and other social science texts to analyze how the concept is utilized. Finally, students consider how stigma functions as an analytic and explanatory model in their own work. It is important that students enrolled in this course have a research project-- proposed or actual-- involving stigma in some way-- or that they are interested in working through stigma as a concept collectively.

Instructor(s): M. Friedner Terms Offered: Winter

Prerequisite(s): Advanced undergraduates.

Note(s): CHDV Distribution: C, D; 2, 4

Equivalent Course(s): CHDV 21230, ANTH 35140, MAPS 31230

# CHDV 31600. Introduction to Language Development. 100 Units.

This course addresses the major issues involved in first-language acquisition. We deal with the child's production and perception of speech sounds (phonology), the acquisition of the lexicon (semantics), the comprehension and production of structured word combinations (syntax), and the ability to use language to communicate (pragmatics). Instructor(s): S. Goldin-Meadow Terms Offered: Winter

Equivalent Course(s): CHDV 23900, LING 31600, LING 21600, PSYC 23200, PSYC 33200, EDSO 23200

# CHDV 32401. Multilevel Modeling. 100 Units.

This course will focus on the analysis of multilevel data in which subjects are nested within clusters (e.g., health care providers, hospitals). The focus will be on clustered data, and several extensions to the basic two-level multilevel model will be considered including three-level, cross-classified, multiple membership, and multivariate models. In addition to models for continuous outcomes, methods for non-normal outcomes will be covered, including multilevel models for dichotomous, ordinal, nominal, time-to-event, and count outcomes. Some statistical theory will be given, but the focus will be on application and interpretation of the statistical analyses.

Instructor(s): D. Hedeker Terms Offered: Autumn

Prerequisite(s): PBHS 32400 and PBHS 32700 or consent of instructor.

Equivalent Course(s): PBHS 33400

### CHDV 32501. Applied Longitudinal Data Analysis. 100 Units.

Longitudinal data consist of multiple measures over time on a sample of individuals. This type of data occurs extensively in both observational and experimental biomedical and public health studies, as well as in studies in sociology and applied economics. This course will provide an introduction to the principles and methods for the analysis of longitudinal data. Whereas some supporting statistical theory will be given, emphasis will be on data analysis and interpretation of models for longitudinal data. Problems will be motivated by applications in epidemiology, clinical medicine, health services research, and disease natural history studies.

Instructor(s): D. Hedeker Terms Offered: Spring

Prerequisite(s): PBHS 32400/STAT 22400 or equivalent, and PBHS 32600/STAT 22600 or PBHS 32700/STAT 22700 or equivalent; or consent of instructor.

Equivalent Course(s): STAT 36900, PBHS 33300

# CHDV 32702. Statistical Applications. 100 Units.

This course provides a transition between statistical theory and practice. The course will cover statistical applications in medicine, mental health, environmental science, analytical chemistry, and public policy. Lectures are oriented around specific examples from a variety of content areas. Opportunities for the class to work on interesting applied problems presented by U of C faculty will be provided. Although an overview ,of relevant statistical theory will be presented, emphasis is on the development of statistical solutions to interesting applied problems.

Instructor(s): R. Gibbons Terms Offered: Autumn

Prerequisite(s): PBHS 32700/STAT 22700 or STAT 34700 or consent of instructor.

Equivalent Course(s): PBHS 33500, STAT 35800

# CHDV 33405. Cultural Diversity, Structural Barriers, and Multilingualism in Clinical and Healing Encounters. 100 Units.

How are illness, disorder, and recovery experienced in different localities and cultural contexts? How do poverty, racism, and gender discrimination translate to individual experiences of disease? Combining anthropological perspectives on health and illness with a social determinants of health framework, this class will examine topics such as local etiologies of disease and healing practices, linguistic interpretation in clinical and healing contexts, and structural factors that hinder healthcare access and instigate disorder. Moreover, by taking clinical and healing encounters as our locus of analysis, we will explore how healers and health professionals recognize and respond to diversity, power imbalances, and the language individuals give to illness and suffering. We will draw on a range of materials, from ethnographies to long form journalism to the perspectives of course visitors, in order to examine case studies in mental illness, sexual health, organ donation and transplantation, and chronic disease in a variety of geographic contexts.

Instructor(s): D. Ansari Terms Offered: Spring

Note(s): CHDV Distribution Areas: C, D

Equivalent Course(s): CHDV 23405, HLTH 23407, CRES 23405, PBPL 23405, ANTH 24365, GNSE 24365

# CHDV 34800. Kinship and Social Systems. 100 Units.

This course will use a biological approach to understanding how groups form and how cooperation and competition modulate group size and reproductive success. We will explore social systems from evolutionary and ecological perspectives, focusing on how the biotic and social environments favor cooperation among kin as well as how these environmental features influence mating systems and inclusive fitness. While a strong background in evolutionary theory is not required, students should have basic understanding of biology and natural selection. Course will use combination of lectures and discussion.

Instructor(s): J. Mateo Terms Offered: Autumn Note(s): CHDV Distribution, A\*; 1\* Equivalent Course(s): EVOL 34800

### CHDV 35201. Communication in humans and non-humans. 100 Units.

This seminar will compare communication in humans and non-humans. Topics to be covered include the reliance of communication on more general cognitive processes, the learnability of communicative systems, referential intent, honest signaling, and deception. These issues will be explored through readings that cover recent work at the intersection of human and animal communication.

Instructor(s): J. Mateo Terms Offered: Winter Equivalent Course(s): PSYC 35201

### CHDV 36008. Principles and Methods of Measurement. 100 Units.

Accurate measurement of key theoretical constructs with known and consistent psychometric properties is one of the essential steps in quantitative social and behavioral research. However, measurement of phenomena that are not directly observable (such as psychological attributes, perceptions of organizational climate, or quality of services) is difficult. Much of the research in psychometrics has been developed in an attempt to properly define and quantify such phenomena. This course is designed to introduce students to the relevant concepts, principles, and methods underlying the construction and interpretation of tests or measures. It provides in-depth coverage of test reliability and validity, topics in test theory, and statistical procedures applicable to psychometric methods. Such understanding is essential for rigorous practice in measurement as well as for proper interpretation of research. The course is highly recommended for students who plan to pursue careers in academic research or applied practice involving the use or development of tests or measures in the social and behavioral sciences.

Instructor(s): Yanyan Sheng Terms Offered: Spring

Prerequisite(s): Course work or background experience in statistics through inferential statistics and linear regression. Equivalent Course(s): CHDV 26008, SOSC 36008, SOSC 26008

### CHDV 36655. Advanced Topics in Epigenetics of the Brain. 100 Units.

Once considered a domain of cancer, we now recognize that epigenetic processes affect neurodevelopment, cognitive processes, mental disorders, and behavior. Epigenetic mechanisms are those that alter the function of the genome without altering the base sequence of genomic DNA (the As, Cs, Ts, and Gs we are familiar with), thus can be flexibly modified in response to the environment. In this seminar, we will explore a variety of epigenetic modifications, consider how they encode personal and transgenerational experiences, and examine how they direct brain function and behavior. Behavior can be understood on multiple levels and timescales; we will employ knowledge from the emerging field of epigenetics to shed more light into the black box of behavior.

Instructor(s): S. London Terms Offered: Winter

Note(s): Only fourth-year college students with permission Equivalent Course(s): PSYC 36655

### CHDV 38950. The Development of Communicative Competence. 100 Units.

This course examines the emergence of communicative skills in humans. We will focus on how children glean information about language structure and language use from their home environments. We will also discuss the proposed cognitive and evolutionary roots of communicative behaviors, with a focus on current gaps in our knowledge and possible pathways forward. The course will consider these issues from multiple perspectives including linguistics, psychology, and linguistic anthropology. We will also briefly cover a range of methods associated with these different areas of study. It is expected that, by the end of the course, you should be able to think and write critically about how human communication and human language are intertwined in both adults and children.

Instructor(s): M. Casillas Terms Offered: Spring

Note(s): UG: B, C, M; Grad: 5

Equivalent Course(s): LING 38951, PSYC 38960, EDSO 38950

# CHDV 38990. Muslims in the United State and Western Europe. 100 Units.

Muslim migration to the United States and Western Europe proliferated in the last quarter of the 20th Century, and Islam has been a visible (and controversial) presence in these societies ever since. Though internally varied by race, ethnicity, national origins, sect and class positionality, Muslim communities have faced homogenizing narratives rooted in orientalist frameworks. As Islam continues to be a site of conflict in geopolitical struggles, these frameworks have reproduced themselves into the twenty-first century. This course will use an intersectional and critical lens to examine the issues facing Muslims in the United States and Western Europe on both macro and micro levels. One third of the course will cover the interactions between Muslim communities and their 'host societies' vis-à-vis the state, mass media, and public opinion. Another third of the course will delve into issues of socioeconomic mobility and cultural assimilation, Finally, the last third will show how these macro concepts influence the everyday lived experiences of Muslims in these contexts. This is a seminar-style, reading-heavy course. Students should be familiar with and capable of deploying the sociological concepts of race, class, gender and intersectionality.

Instructor(s): E. Abdelhadi Terms Offered: Autumn Spring

Note(s): Grad: B, C

Equivalent Course(s): CRES 38990, ISLM 38990, GNSE 38990, CHDV 28990, SOCI 30324

# CHDV 40000. HD Concepts. 100 Units.

Our assumptions about the processes underlying development shape how we read the literature, design studies, and interpret results. The purpose of this course is two-fold in that, first, it makes explicit both our own assumptions as well as commonly held philosophical perspectives that impact the ways in which human development is understood. Second, the course provides an overview of theories and domain-specific perspectives related to individual development across the life-course. The emphasis is on issues and questions that have dominated the field over time and, which continue to provide impetus for research, its interpretation, and the character of policy decisions and their implementation. Stated differently, theories have utility and are powerful tools. Accordingly, the course provides a broad basis for appreciating theoretical approaches to the study of development and for understanding the use of theory in the design of research and its application. Most significant, theories represent heuristic devices for 'real time' interpretations of daily experiences and broad media disseminated messages.

Instructor(s): E. Raikhel Terms Offered: Autumn

Prerequisite(s): CHD Grad Students Only

Note(s): Required Course for Comparative Human Development Graduate Students

### CHDV 40192. Seminar: The Family. 100 Units.

This seminar will focus on classic and current readings on the family, including the family as an institution, changes in family structure and function, new family forms, cohabitation, marriage, union dissolution, fertility, sexuality, working families, intergenerational relations, and family policy. We will discuss the readings for the week, with a focus on evaluating both the research and the ideas. Students will develop a research project on the family and prepare a paper outlining the project, providing a theoretical framework, background, hypotheses and approach. This might serve as the basis for a qualifying paper.

Instructor(s): L. Waite Terms Offered: Autumn Prerequisite(s): Advanced Undergrads Consent of Instructor Equivalent Course(s): SOCI 40192

### CHDV 40207. Development in Adolescents. 100 Units.

Adolescence is a period of rapid growth and development irrespective of circumstances, contextual conditions and supports; thus, it represents both significant challenges and unique opportunities. The conceptual orientation taken acknowledges the noted difficulties but also speculates about the predictors of resiliency and the sources of positive youth development achieved. The course delineates the developmental period's complexity made worse by the many contextual and cultural forces due to socially structured conditions; that fact interact with youths' unavoidable and unique meaning-making processes. As a function of some youths' privileging circumstances versus the low resource and chronic conditions of others, both coping and identity formation processes are emphasized as highly consequential. Thus, stage specific developmental processes are explored for understanding gap findings for a society's diverse youth given citizenship requirements expected of all. In sum, the course presents the experiences of diverse youth from a variety of theoretical perspectives. The strategy improves our understanding about the 'what' of human development as well as dynamic insights about the 'how' and 'why.' Ultimately, the conceptual orientation described is critical for 1) designing better social policy, 2) improving the training and support of socializing agents (e.g., teachers), and 3) enhancing human developmental outcomes (e.g., resilient patterns). Instructor(s): M. Beale Spencer Terms Offered: Spring

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Prerequisite(s): Graduate students only.
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Note(s): CHDV Distribution: 2\*

Equivalent Course(s): CRES 40270

# CHDV 40213. Adolescent Society. 100 Units.

While the manifest function of schools is to provide an education, schools also serve as the primary extra-familial socializing institution during adolescence. This social side of school is quite important to youth development. Indeed, it is within this adolescent society that youth explore their identities, engage in risky or prosocial behaviors, form important social relationships, and learn values and ideals that can shape their long-term educational and occupational trajectories as well as their mental and physical health. In this course, we examine the role that the adolescent society plays in youth development, from early adolescence through early adulthood and from middle school through college contexts. Instructor(s): Mueller, A. Terms Offered: Spring

# CHDV 40301. Topics in Medical Anthropology. 100 Units.

This seminar will review theoretical positions and debates in the burgeoning fields of medical anthropology and science and technology studies (STS). We will begin this seminar exploring how 'disease' and 'health' in the early 19-century became inseparable from political, economic, and technological imperatives. By highlighting the epistemological foundations of modern biology and medicine, the remainder of this seminar will then focus on major perspectives in, and responses to, critical studies of health and medicine, subjectivity and the body, entanglements of ecology and health, humanitarianism, and psychoanalytic anthropology.

Instructor(s): P. Sean Brotherton Terms Offered: Winter. Winter 2021

Prerequisite(s): Strongly recommended: previous lower-division courses in the social studies of health and medicine through ANTH, HIPS, HLTH, or CHDV

Note(s): This is an advanced reading seminar. Among undergraduates, 3rd and 4th year students are given priority. Consent only: Use the online consent form via the registrar to enroll.

Equivalent Course(s): HIPS 24341, ANTH 40310, CHSS 40310, HLTH 24341, CRES 24341, ANTH 24341, CHDV 24341

### CHDV 40400. Inequality in Education: Theory, Policy and Practice. 100 Units.

Problems confronting urban schools are bound to the social, economic, and political conditions of the urban environments in which schools reside. This course will explore social, economic, and political issues, with an emphasis on issues of race and class as they have affected the distribution of equal educational opportunities in urban schools. We will focus on the ways in which family, school, and neighborhood characteristics intersect to shape the divergent outcomes of low- and middle-income children residing with any given neighborhood. Students will tackle an important issue affecting the residents and schools in one Chicago neighborhood.

Instructor(s): M. Keels Terms Offered: Autumn

Note(s): Grad distribution: 2\* This course replaces CHDV 20305 Inequality in Urban Spaces and credit cannot be granted for both courses.

Equivalent Course(s): CHDV 20499, CRES 20499, EDSO 20499, EDSO 30499

# CHDV 40404. Computation and the Identification of Cultural Patterns. 100 Units.

Culture is increasingly becoming digital, making it more and more necessary for those in both academia and industry to use computational strategies to effectively identify, understand, and (in the case of industry) capitalize on emerging cultural patterns. In this course, students will explore interdisciplinary approaches for defining and mobilizing the concept of 'culture' in their computational analyses, drawing on relevant literature from the fields of Anthropology, Psychology and Sociology. Additionally, they will receive hands-on experience applying computational approaches to identify and analyze a wide range of cultural patterns using the Python programming language. For instance, students will learn to identify emerging social movements using social media data, predict the next fashion trends, and even decipher ancient symbols using archaeological databases.

### Instructor(s): Jonathan Clindaniel Terms Offered: Autumn

Prerequisite(s): No previous coding experience required. A Python boot camp will be held at the beginning of the quarter to teach the coding skills necessary to succeed in the course. Open to Advanced Undergraduates with Instructor Permission. Equivalent Course(s): MAPS 40401, PSYC 40460, MACS 40400

# CHDV 41601. Seminar in Language Development. 100 Units.

Advanced undergraduates and MAPSS students should register for PSYC 33200. Psychology graduate students should register for PSYC 43200. This course addresses the major issues involved in first-language acquisition. We deal with the child's production and perception of speech sounds (phonology), the acquisition of the lexicon (semantics), the comprehension and production of structured word combinations (syntax), and the ability to use language to communicate (pragmatics).

Instructor(s): S. Goldin-Meadow Terms Offered: Winter Equivalent Course(s): PSYC 43200

## CHDV 41603. Advanced Seminar in Developmental Psychology. 100 Units.

This is an introductory course for graduate students in developmental psychology. Topics in biological, perceptual, cognitive, social, and language development will be covered. This course will satisfy one of Psychology graduate students' core course requirements.

Instructor(s): S. Levine, A. Shaw Terms Offered: Spring Equivalent Course(s): PSYC 40500

# CHDV 42350. Development Over Life Course. 100 Units.

This course explores the biological and social patterning of lives from infancy through old age. Readings will include class and contemporary theory and research related to varied stages of the life course. Discussion will focus on paradigmatic themes in life course development such as: the social situation of lives in time and place, the interconnectedness of lives and generations, the nature of developmental transitions, the timing of life experiences, and the continuity of lives through time. Examples will be drawn from populations of traditional concern within social welfare policy and social work practice. Equivalent Course(s): SSAD 50400

# CHDV 42401-42402. Trial Research in Human Development - I-II.

This course is taken in the Spring quarter of the first year, and again in the Autumn quarter of the second year. The purpose of this seminar is to help students formulate and complete their trial research projects.

# CHDV 42401. Trial Research in Human Development I. 100 Units.

This course is taken in the Spring quarter of the first year, followed by part II in the Autumn quarter of the second year. The purpose of this seminar is to help students formulate and complete their trial research projects.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): CHD grad students only.

Note(s): CHDV Distribution, R

# CHDV 42402. Trial Research in Human Development II. 100 Units.

Second in required Trial Research Seminar sequence. This course is taken in the Autumn quarter of the second year. The purpose of this seminar is to help students formulate and complete their trial research projects. Instructor(s): J. Cole Terms Offered: Autumn

Prerequisite(s): CHDV 42401 Trial Research in Human Development-I. CHD graduate students only.

Note(s): Required Course for Comparative Human Development Graduate Students

# CHDV 43204. Medical Anthropology. 100 Units.

This course introduces students to the central concepts and methods of medical anthropology. Drawing on a number of classic and contemporary texts, we will consider both the specificity of local medical cultures and the processes which increasingly link these systems of knowledge and practice. We will study the social and political economic shaping of illness and suffering and will examine medical and healing systems-including biomedicine-as social institutions and as sources of epistemological authority. Topics covered will include the problem of belief; local theories of disease causation and healing efficacy; the placebo effect and contextual healing; theories of embodiment; medicalization; structural violence; modernity and the distribution of risk; the meanings and effects of new medical technologies; and global health. Instructor(s): E. Raikhel Terms Offered: Winter

Prerequisite(s): PQ: Undergraduates must have completed or currently be enrolled in a SOSC sequence. Graduate option is only open to Master's students.

Note(s): CHDV Distribution: C, D; 3, 4

Equivalent Course(s): HIPS 27301, ANTH 24330, HLTH 23204, ANTH 40330, KNOW 43204, CHDV 23204

# CHDV 43600. Processes of Judgement and Decision Making. 100 Units.

This course offers a survey of research on judgment and decision making, with emphasis placed on uncertainty and (intrapersonal) conflict. An historical approach is taken in which the roots of current research issues and practices are traced. Topics are drawn from the following areas: evaluation and choice when goals are in conflict and must be traded off, decision making when consequences of the decision are uncertain, predictive and evaluative judgments under conditions of uncertain, incomplete, conflicting, or otherwise fallible information. Instructor(s): W. Goldstein Terms Offered: Autumn

Equivalent Course(s): PSYC 43600

# CHDV 43680. Topics in Language and Gesture. 100 Units.

The course will focus on a range of topics in language (discourse, narrative, turn-taking, conversational repair, etc.) and how they interact with co-speech and other nonverbal cues.

Instructor(s): S. Goldin-Meadow Terms Offered: Winter

Equivalent Course(s): PSYC 43680

### CHDV 43690. Topics in Action, Representation, and Gesture. 100 Units.

The course will focus on how movement of the body (including gesture) affects learning, information processing, and representation.

Instructor(s): S. Goldin-Meadow Terms Offered: Spring Equivalent Course(s): PSYC 43690

# CHDV 44700. Seminar: Topics in Judgment and Decision Making. 100 Units.

This course offers a survey of research on judgment and decision making, with emphasis placed on uncertainty and (intrapersonal) conflict. An historical approach is taken in which the roots of current research issues and practices are traced. Topics are drawn from the following areas: evaluation and choice when goals are in conflict and must be traded off, decision making when consequences of the decision are uncertain, predictive and evaluative judgments under conditions of uncertain, incomplete, conflicting, or otherwise fallible information.

Instructor(s): W. Goldstein Terms Offered: Spring

Equivalent Course(s): PSYC 44700

### CHDV 45699. When Cultures Collide: Multiculturalism in Liberal Democracies. 100 Units.

Coming to terms with diversity in an increasingly multicultural world has become one of the most pressing public policy projects for liberal democracies in the early 21st century. One way to come to terms with diversity is to try to understand the scope and limits of toleration for variety at different national sites where immigration from foreign lands has complicated the cultural landscape. This seminar examines a series of legal and moral questions about the proper response to norm conflict between mainstream populations and cultural minority groups (including old and new immigrants), with special reference to court cases that have arisen in the recent history of the United States.

Instructor(s): R. Shweder Terms Offered: Autumn

Equivalent Course(s): ANTH 45600, PSYC 45300, KNOW 45699, HMRT 35600, GNSE 45600

# CHDV 47300. Linguistic Anthropology Practicum. 100 Units.

Linguistic Anthropology Practicum / Projects in the Linguistics Laboratory Instructor(s): Constantine Nakassis Terms Offered: Spring. Spring 2020 Equivalent Course(s): ANTH 57300, LING 57300



# Committee on Conceptual and Historical Studies of Science

# Interim Chair (2020-2021)

Michael Rossi, History

Chair (on leave 2020-2021)

Adrian Johns, History

Professors

- Fredrik Albritton Jonsson, History
- Lorraine Daston, Social Thought
- James A. Evans, Sociology
- Adrian Johns, History
- Karin Knorr Cetina, Sociology and Anthropology
- Joseph Masco, Anthropology
- Karl Matlin, Department of Surgery
- Salikoko Mufwene, Linguistics
- Robert J. Richards, History
- Michael Rossi, History
- James T. Sparrow, History
- Stephen M. Stigler, Statistics
- Kaushik Sunder Rajan, Anthropology

Emeritus Faculty

- Arnold Davidson, Philosophy
- Judith B. Farquhar, Anthropology
- Jan Goldstein, History
- Robert Perlman, Pediatrics
- William C. Wimsatt, Philosophy

Affiliate Faculty

William H. Sterner, CHSS

The Committee on Conceptual and Historical Studies of Science (CHSS) is an interdisciplinary graduate program dedicated to advancing social, historical, and philosophical perspectives on science. Its areas of interest are broad, extending across the sciences and from the ancient world to the present day. Its faculty derive from many departments in the University, but particularly from History, Sociology, Anthropology, and Philosophy. We currently have major strengths in the study of evolutionary biology, psychology, and medicine, and in issues of the social activity of science, such as those relating to scientific authority, credibility, communication, and intellectual property. Students in the Ph.D. program have an opportunity to investigate such aspects of the scientific enterprise in depth, within its many rich historical, social, and philosophical contexts. They are also encouraged to grapple with the practices and approaches of science itself.

A brief description of the Committee's degree requirements is provided below, along with a representative list of courses that have been taught in recent years. For more complete information, you are encouraged to consult the website at http://chss.uchicago.edu/. This site contains an up to date description of faculty research interests, a complete statement of degree requirements, descriptions of individual courses being taught this year, a calendar of events (including meetings of the Committee's regular Workshop in the History, Philosophy, and Sociology of Science), a list of students who have received Ph.D.s from the Committee with the titles of their dissertations, and more.

Those with questions about the Committee should write to the Administrative Assistant, The Committee on Conceptual and Historical Studies of Science, The University of Chicago, 1126 East 59th Street, Chicago, IL 60637 (bethcalderon@uchicago.edu (bbmackev@uchicago.edu)).

# Application

New students are admitted to the Committee through the Division of the Social Sciences. Applicants will be expected to submit undergraduate transcripts, scores from the general Graduate Record Examination, three letters of recommendation, short descriptions of their interests and/or reasons for wanting to study in CHSS, and a writing sample.

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: https://apply-ssd.uchicago.edu/apply/. (https://

socialsciences.uchicago.edu/admissions/apply/) Questions pertaining to admissions and aid should be directed to ssdadmissions@uchicago.edu or (773) 702-8415.

Our application process is now entirely online (paperless). All supporting material - including letters of recommendation, transcripts, and writing samples (if required by a specific department) - **must be submitted electronically through the online application.** 

More information about applying to programs in the University of Chicago's Division of the Social Sciences can be found at https://socialsciences.uchicago.edu/admissions/how-to-apply (https://socialsciences.uchicago.edu/admissions/how-to-apply/).

### Degree Requirements

Every new student in CHSS is assigned an adviser, with whom he or she designs an individual program of study. Because the interests of students within CHSS vary widely, so too do these programs. Yet all students are expected to fulfill certain common requirements. Full and up to date details are given on the website, but the main elements are described here.

Students choose one of the following options:

- 1. SCIENCE OPTION: The student may earn a master's degree in a science (here understood to include mathematics, statistics, and social science).
- 2. PHILOSOPHY OPTION: The student may earn a master's degree in philosophy.
- 3. HISTORY OPTION: The student may earn a master's degree in history.

All students must complete a total of at least eighteen courses at the University for a grade of B or better, including at least seven CHSS courses. They must maintain at least a B+ average every quarter. Students must take a coherent series of six courses in a scientific area at the University, approved by the Committee, at a level appropriate to their preparation and of an appropriately advanced nature. (*The term* science *here includes social sciences as represented in the University's Division of the Social Sciences.*) This will normally mean that students must take at least some portion of their science work at a graduate level. Note that if a student enters the program with a master's degree in an appropriate area, the committee determines what level of credit is given for it.

The expected timetable is that students entering with a master's degree will complete coursework by the end of the second year, and those entering without will complete it by the end of year three (see the website for this and other details of the expected timetable).

Among the coursework of the first two years, students should take three courses offered by the committee: Philosophy of Science, History of Science, and Introduction to Science Studies.

Students must then pass two oral examinations. Each student has the option of taking the exams in history of science, philosophy of science, sociology of science, or anthropology of science; but at least one of the exams must be in either history of science or philosophy of science. These exams are, in part, designed by the students themselves.

At this point the student writes a dissertation proposal, and defends it at a hearing before his or her dissertation committee. He or she is then considered to have advanced to Ph.D. candidacy, and proceeds to write the dissertation itself.

### Courses

The department website offers descriptions of representative courses offered in recent years: https://chss.uchicago.edu/ content/courses (https://chss.uchicago.edu/content/courses/)

# Conceptual and Historical Studies of Science Courses

CHSS 30924. Science, Modernity, and Anti-Modernity. 100 Units.

Equivalent Course(s): SCTH 30924, HIST 44905

### CHSS 30925. The Humanities as a Way of Knowing. 100 Units.

Despite intertwined histories and many shared practices, the contemporary humanities and sciences stand in relationships of contrast and opposition to one another. The perceived fissure between the "Two Cultures" has been deepened by the fact that the bulk of all history and philosophy of science has been devoted to the natural sciences. This seminar addresses the history and epistemology of what in the nineteenth century came to be called the "sciences" and the "humanities" since the Renaissance from an integrated perspective. The historical sources will focus on shared practices in, among others, philology, natural history, astronomy, and history. The philosophical source will develop an epistemology of the humanities: how humanists know what they know.

Equivalent Course(s): HIST 39517, KNOW 40303, PHIL 30925, PHIL 20925, SCTH 30925, CLAS 37316, HIST 29517

# CHSS 30927. Knowledge as a Platter: Comparative Perspectives on Knowledge Texts in the Ancient World. 100 Units.

In various ancient cultures, sages created the new ways of systematizing what was known in fields as diverse as medicine, politics, sex, dreams, and mathematics. These texts did more than present what was known; they exemplified what it means to know - and also why reflective, systematic knowledge should be valued more highly than the knowledge gained from common sense or experience. Drawing on texts from Ancient India, Greece, Rome, and the Near East, this course will explore these early templates for the highest form of knowledge and compare their ways of creating fields of inquiry: the first disciplines. Texts include the Arthashastra, the Hippocratic corpus, Deuteronomy, the Kama Sutra, and Aristotle's Parva naturalia.

Equivalent Course(s): KNOW 31415, SALC 30927, SCTH 30927, HREL 30927

### CHSS 30928. Thinking the Present through the Past: Classic Works of History since 1750. 100 Units.

As proudly empirical as the sciences, as interpretive as the humanities, and as analytical as the social sciences, history as the pursuit of knowledge about the past resists classification. Because all history is written through the lens of the present, most works of history cease to be read after a generation, especially during the modern period, as the pace of change accelerated. In this seminar we will read some of the exceptions, including works by Kant, Tocqueville, Michelet, cCassirer, Huizinga, Lovejoy, and Frances Yates, to understand how powerful vision of the past can transcend its own present. Instructor(s): Lorraine Daston Terms Offered: Spring. This course will be taught spring 2019. Prerequisite(s): Seminar - primarily graduate students; all students require the permission of the instructor.

Equivalent Course(s): HIST 45002, SCTH 30928, KNOW 30928

# CHSS 30929. The Strange World of Francis Bacon. 100 Units.

Attention confers value - aesthetic, moral, epistemic, and now monetary value - upon whatever it singles out from the stream of experience. This seminar explores the long history of the theories and practices of attention in philosophy, religion, science, psychology, and the arts. Guiding questions include what objects are deemed worthy of attention and why, extreme states of attention such as religious contemplation or scientific observation, the schooling of attention through practices such as reading and web-surfing, theories of how attention works, and pathologies of attention.

Instructor(s): Lorraine Daston Terms Offered: Spring. Course will be taught spring 2021

Note(s): Instructor's consent required.

Equivalent Course(s): SCTH 30929, HIST 45003

### CHSS 31202. Goethe: Literature, Science, Philosophy. 100 Units.

This lecture-discussion course will examine Johann Wolfgang von Goethe's intellectual development, from the time he wrote Sorrows of Young Werther through the final states of Faust. Along the way, we will read a selection of Goethe's plays, poetry, and travel literature. We will also examine his scientific work, especially his theory of color and his morphological theories. On the philosophical side, we will discuss Goethe's coming to terms with Kant (especially the latter's third Critique) and his adoption of Schelling's transcendental idealism. The theme uniting the exploration of the various works of Goethe will be unity of the artistic and scientific understanding of nature, especially as he exemplified that unity in "the eternal feminine."

Instructor(s): R. Richards Terms Offered: Autumn

Note(s): German would be helpful, but it is not required.

Equivalent Course(s): GRMN 35304, FNDL 25315, HIPS 26701, PHIL 30610, HIST 25304, GRMN 25304, HIST 35304, KNOW 31302, PHIL 20610

### CHSS 31404. Britain in the Age of Steam 1783-1914. 100 Units.

Britain in the Victorian era rose to global dominance by pioneering a new fossil fuel economy. This course explores the profound impact of coal and steam on every aspect of Victorian society, from politics and religion to industrial capitalism and the pursuit of empire. Our historical investigation also serves a second purpose by helping us see our own fossil-fuel economy with fresh eyes through comparison with Victorian energy use. Assignments include short essays based on energy "field work" and explorations in material culture.

Instructor(s): F. Albritton Jonsson Terms Offered: Spring

Equivalent Course(s): HIPS 21404, HIST 21404, ENST 21404, HIST 31404, LLSO 21404

### CHSS 31413. Sex and Enlightenment Science. 100 Units.

What do a lifelike wax woman, a birthing dummy, and a hermaphrodite have in common? This interdisciplinary course seeks answers to this question by exploring how eighteenth-century scientific and medical ideas, technologies, and practices interacted with and influenced contemporary notions of sex, sexuality, and gender. In our course, the terms "sex," "Enlightenment," and "science" will be problematized in their historic contexts using a variety of primary and secondary sources. Through these texts, as well as images and objects, we will see how emerging scientific theories about sex, sexuality, and gender contributed to new understandings of the human, especially female, body. We will also see how the liberating potential of Enlightenment thought gave way to sexual and racial theories that insisted on fundamental human difference. Topics to be covered include theories of generation, childbirth, homosexuality, monstrosities, race and procreation, and hermaphrodites and questions about the "sex" of the enlightened scientist and the gendering of scientific practices.

Equivalent Course(s): HIST 22218, KNOW 21413, GNSE 21413, HIPS 21413

# CHSS 31502. Sciences of Memory in the Twentieth Century. 100 Units.

This course will examine a series of episodes in the history of the understanding of autobiographical memory, beginning with the emergence of academic psychology, and also psychoanalysis in the late nineteenth century and ending with the "memory wars" of the 1980s and '90s. The course will include an examination of the yoked history of beliefs about individual and "collective" memory: the impact of memory therapies during the First and Second World Wars, the impact of innovations in brain surgery on beliefs about the physiological memory record and the neurophysiology of remembering, and the impact of the rise of forensic psychology on the popular, scientific, and legal understanding of memory. Instructor(s): A. Winter Terms Offered: Spring

Equivalent Course(s): HIST 25510, HIPS 28002, HIST 35505

# CHSS 32000. Introduction to Science Studies. 100 Units.

This course provides an introduction to the interdisciplinary study of science, medicine, and technology. During the twentieth century, sociologists, historians, philosophers, and anthropologists raised original, interesting, and consequential questions about the sciences. Often their work drew on and responded to each other, and, taken together, their various approaches came to constitute a field, "science studies." The course furnishes an initial guide to this field. Students will not only encounter some of its principal concepts, approaches and findings, but will also get a chance to apply science-studies perspectives themselves by performing a fieldwork project. Among the topics we may examine are: the sociology of scientific knowledge and its applications; actor-network theories of science; constructivism and the history of science; and efforts to apply science studies approaches beyond the sciences themselves.

Instructor(s): Michael Paul Rossi Terms Offered: Autumn. Offered in Autumn 2020 Equivalent Course(s): SOCI 40137, ANTH 32305, HIST 56800, HIPS 22001, KNOW 31408

# CHSS 32011. Data: History and Literature. 100 Units.

Data is a notion that seems to characterize our contemporary world. Digital revolutions, artificial intelligence, and new forms of management and governance all claim to be data-driven. This course traces the origins of these trends to the nineteenth century, when new statistical knowledges and literary traditions emerged. Moving across disciplinary boundaries, we will analyze the ways in which practices of observation and calculation produced data on populations, crime, and economies. Likewise, the literature of this period reflected the ways that data shaped subjective experience and cultural life: the rise of the detective novel transformed the world into a set of signs and data points to interpret, while Balzac's Human Comedy classified individuals into types. Drawing on these historical and humanistic perspectives, students will have the opportunity to measure and analyze their own lives in terms of data-as well as think critically about the effects of these knowledge practices.

Instructor(s): Alexander Campolo, Anastasia Klimchynskya Terms Offered: Autumn

Note(s): undergrads permitted with permission of instructors

Equivalent Course(s): ENGL 32011, SOCI 30518, SOCI 20518, DIGS 30016, KNOW 32011, STAT 36711, SCTH 32011, HIPS 22011, PPHA 32011, KNOW 22011

# CHSS 32708. Planetary Britain, 1600-1900. 100 Units.

What were the causes behind Britain's Industrial Revolution? In the vast scholarship on this problem, one particularly heated debate has focused on the imperial origins of industrialization. How much did colonial resources and markets contribute to economic growth and technological innovation in the metropole? The second part of the course will consider the global effects of British industrialization. To what extent can we trace anthropogenic climate change and other planetary crises back to the environmental transformation wrought by the British Empire? Topics include ecological imperialism, metabolic rift, the sugar revolution, the slave trade, naval construction and forestry, the East India Company, free trade and agriculture, energy use and climate change.

Equivalent Course(s): HIPS 22708, ENST 22708, KNOW 32808, HIST 22708, HIST 32708, KNOW 22708

### CHSS 32900. History of Statistics. 100 Units.

This course covers topics in the history of statistics, from the eleventh century to the middle of the twentieth century. We focus on the period from 1650 to 1950, with an emphasis on the mathematical developments in the theory of probability and how they came to be used in the sciences. Our goals are both to quantify uncertainty in observational data and to develop a conceptual framework for scientific theories. This course includes broad views of the development of the subject and closer looks at specific people and investigations, including reanalyses of historical data.

Instructor(s): S. Stigler Terms Offered: Spring

Prerequisite(s): Prior statistics course

Equivalent Course(s): HIPS 25600, STAT 36700, STAT 26700

# CHSS 33300. Introduction to Philosophy of Science. 100 Units.

We will begin by trying to explicate the manner in which science is a rational response to observational facts. This will involve a discussion of inductivism, Popper's deductivism, Lakatos and Kuhn. After this, we will briefly survey some other important topics in the philosophy of science, including underdetermination, theories of evidence, Bayesianism, the problem of induction, explanation, and laws of nature. (B) (II)

Instructor(s): T. Pashby Terms Offered: Autumn

Equivalent Course(s): PHIL 32000, HIST 35109, HIPS 22000, HIST 25109, PHIL 22000

## CHSS 33500. Elementary Logic. 100 Units.

An introduction to the concepts and principles of symbolic logic. We learn the syntax and semantics of truth-functional and first-order quantificational logic, and apply the resultant conceptual framework to the analysis of valid and invalid arguments, the structure of formal languages, and logical relations among sentences of ordinary discourse. Occasionally we will venture into topics in philosophy of language and philosophical logic, but our primary focus is on acquiring a facility with symbolic logic as such.

Instructor(s): Autumn 2020: G. Schultheis; Winter 2021: M. Kremer Terms Offered: Autumn Winter Equivalent Course(s): PHIL 20100, LING 20102, HIPS 20700, PHIL 30000

# CHSS 33600. Intermediate Logic. 100 Units.

This course provides a first introduction to mathematical logic for students of philosophy. In this course we will prove the soundness and completeness of deductive systems for both propositional and first-order predicate logic. (B) (II) Instructor(s): A. Vasudevan Terms Offered: Winter

Prerequisite(s): Elementary Logic (PHIL 20100) or its equivalent. Equivalent Course(s): PHIL 39600, PHIL 29400, HIPS 20500

# CHSS 34903. Victorian Science. 100 Units.

This course examines how Victorians sought to understand the natural world, and how their scientific work helped develop modern intellectual conventions, social relations, and institutions. We will study a wide range of topics from the 1830s through the beginning of the twentieth century in order to develop a kind of panorama of scientific life and to determine when key features of modern science came into being.

Instructor(s): A. Winter Terms Offered: Winter

Equivalent Course(s): HIST 34913, HIPS 24913, HIST 24913

### CHSS 35010. Central Problems in the Philosophy of Biology. 100 Units.

The course will address central issues in philosophy of biology. We will begin by discussing the nature of evolutionary theory, focusing on issues of adaptation, selection vs. drift, units of selection and the concept of species. We shall then look into some central ideas in the philosophy of science-such as reduction and laws-and examine their application in biology. Last, we will discuss causal concepts such as mechanism, function and teleology. The format of the course will be short lectures followed by presentations by students and discussion. (B)

Instructor(s): C. Bloch Terms Offered: Winter

Equivalent Course(s): PHIL 32705, PHIL 22705, HIST 25010, HIST 35010, HIPS 22711

# CHSS 35014. Introduction to Environmental History. 100 Units.

How have humans interacted with the environment over time? This course introduces students to the methods and topics of environmental history by way of classic and recent works in the field: Crosby, Cronon, Worster, Russell, and McNeill, etc. Major topics of investigation include preservationism, ecological imperialism, evolutionary history, forest conservation, organic and industrial agriculture, labor history, the commons and land reform, energy consumption, and climate change. Our scope covers the whole period from 1492 with case studies from European, American, and British imperial history. Instructor(s): F. Albritton Jonsson Terms Offered: Winter

Equivalent Course(s): HIPS 25014, ENST 25014, HIST 25014, HIST 35014

### CHSS 35121. The Brazil-Argentina Nuclear Cooperation Agreement and Thermoelectric Transition in Brazil. 100 Units.

In this course we present a history of Brazil-Argentina nuclear cooperation and how Brazil is planning the transition of its electric matrix from predominantly hydraulic towards a mix with increased share of nuclear power. Proliferation risks are a main concern of international community when nuclear programs expansion is considered. The Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials, created in 1991, has been fundamental in assuring the international community (via the International Atomic Energy Agency) that the nuclear materials and facilities of both countries are being used for peaceful purposes. Domestically, the debate has been environmental in nature, and concerns topics ranging from mining to power generation, and from radioactive materials disposal to radiation effects in living organisms and major accidents. These diplomatic, environmental, social and political issues are in turn dependent on technical details of the thermoelectric generating process, and this nexus of issues provides the topics for the course.

Instructor(s): Ramos, Alexandre Terms Offered: Autumn

Note(s): Tinker Visiting Professor Autumn 2018

Equivalent Course(s): LACS 25121, HIPS 25121, PPHA 39921, LACS 35121

# CHSS 35208. Motion Pictures in the Human Sciences. 100 Units.

This course will examine the relationship between moving images, particularly motion-picture films, and the human sciences, broadly construed, from the early days of cinema to the advent of functional magnetic resonance imaging (fMRI). It will use primary source documents alongside screenings to allow students to study what the moving image meant to researchers wishing to develop knowledge of mind and behavior, and what they thought film could do that still photography and unmediated human observation could not. The kinds of motion pictures we will study will vary widely, from infant development studies to psychiatric films, from documentaries to research films, and from films made by scientists or clinicians as part of their laboratory or therapeutic work to experimental films made by seasoned filmmakers. We will explore how people used the recordings they made in their own studies, in communications with other scientists, and for didactic and other purposes. We will also discuss how researchers' claims about mental processes-perception, memory, consciousness, and interpersonal influence-drew on their understandings of particular technologies. Terms Offered: Spring

Equivalent Course(s): CMST 39002, HIPS 25208, CMST 29002, HIST 25208, HIST 35208

# CHSS 35307. History and Historiography of Science. 100 Units.

Science poses particular problems of historical understanding because it claims to reveal truths independent of human culture and historical change. Yet scholars have argued for decades that both the enterprise of science and, indeed, scientific knowledge itself can be accounted for historically. Since World War II a thriving discipline has arisen to pursue this objective. It has transformed our understanding of such central topics as the practice of experiment, the social meaning of nature, and the constitution of scientific authority. History and Historiography of Science offers an opportunity to see how historians of science have achieved this. We will read both canonical works and new research, in order to understand how they practice their craft of bringing history to bear on what seems the most unhistorical of subjects.

Instructor(s): A. Johns Terms Offered: Winter

Equivalent Course(s): HIPS 25307, HIST 35307, HIST 25307

### CHSS 35309. History of Perception. 100 Units.

Knowing time. Feeling space. Smelling. Seeing. Touching. Tasting. Hearing. Are these universal aspects of human consciousness, or particular experiences contingent upon time, place, and culture? How do we come to know about our own perceptions and those of others? This course examines these and related questions through detailed readings of primary sources, engagement in secondary scholarship in the history and anthropology of sensation, and through close work with participants' own sensations and perceptions of the world around them.

Equivalent Course(s): HIST 35309, KNOW 31404, HIST 25309, ANTH 24308, HIPS 25309, ANTH 34308, KNOW 21404

### CHSS 35408. The History of Suggestion. 100 Units.

This course examines the history of studies of the nature of what has commonly become known as suggestion--subtle influences over personal and group behavior that are thought to affect us outside our conscious awareness or control. The idea of an unconscious influence of this kind has deep roots, but it was only in the nineteenth and twentieth centuries that it became a major focus of research, controversy and reflection. The course will examine the development and significance of characterizations of suggestion and related concepts of subtle influence in medicine, advertising, and various fields in the sciences. Course materials will include primary sources in those areas, literary materials, and film. Instructor(s): A. Winter Terms Offered: Winter

Equivalent Course(s): HIPS 25408, HIST 35408, HIST 25408

# CHSS 35525. Environmental Histories of the Global South. 100 Units.

Drawing on cases from Africa, Latin America, and especially Asia, this course explores key themes in the modern environmental history of the world beyond the rich industrialized North. Our investigations will focus on the ecological impacts of colonialism, war, and development, and how environmental management has helped to construct modern states and capitalist practices in turn. Ranging from the malarial plantations of the Caribbean to the forests of southeast Asia, we will analyze not-so-natural disasters like floods and chemical spills as well as the slow violence of deforestation and droughts. Combining primary sources with classic scholarship, we will encounter pioneering green activists like the original "tree huggers" of the Himalayas and environmental advocates for brutal population control. The course will conclude by examining the emergence of a newly assertive Global South in international climate negotiations, and its implications for the environmental history of our planet at large. The course is open to all, but may be of particular interest to students who have taken "Introduction to Environmental History."

Instructor(s): L. Chatterjee Terms Offered: Spring

Equivalent Course(s): SALC 25025, HIPS 25525, SALC 35025, HIST 25025, HIST 35024

### CHSS 37015. Graphic Medicine. 100 Units.

What do comics add to the discourse on health, illness, and disease? What insight do comics provide about the experience of illness? Can comics improve health? Graphic Medicine: Concepts and Practice is a course designed to introduce students to the basic concepts and practices of the emerging field of graphic medicine. Broadly defined as the "intersection between the medium of comics and the discourse of healthcare," graphic medicine allows for a unique exploration of health, disease, and illness through the narrative use of graphic and textual elements. Following a life-cycle framework, this course will examine the range of graphic medicine works that address topics such as pregnancy, abortion, mental health, sexuality, chronic medical diseases, HIV/AIDS, dementia, and end-of-life issues. Students will learn about conceptual and practical aspects of the field and be exposed to a variety of styles and genres that capture its breadth and diversity. In addition to reading, analyzing, and discussing the works, an important component of the class will be exercises during which students will create their own graphic medicine works. Taught by a nurse cartoonist (also a founding figure in the field) and a physician, the course also provides a perspective of the field from within the practice of medicine. Through didactics, discussion, and practice, this course will provide students with a thorough understanding of the field of graphic medicine.

Instructor(s): Brian Callender, MK Czerwiec Terms Offered: Winter

Prerequisite(s): No prior knowledge or experience of graphic novels, comics, drawing, or medicine required. Equivalent Course(s): HIPS 27015, ENGL 27015, KNOW 27015, KNOW 37015

### CHSS 38400. Darwin's 'On the Origin of Species' and 'The Descent of Man' 100 Units.

This lecture-discussion class will focus on a close reading of Darwin's two classic texts. An initial class or two will explore the state of biology prior to Darwin's Beagle voyage, and then consider the development of his theories before 1859. Then we will turn to his two books. Among the topics of central concern will be the logical, epistemological, and rhetorical status of Darwin's several theories, especially his evolutionary ethics; the religious foundations of his ideas and the religious reaction to them; and the social-political consequences of his accomplishment. The year 2019 was the 210th anniversary of Darwin's birth and the 160th anniversary of the publication of On the Origin of Species. (B) (II) Instructor(s): R. Richards Terms Offered: Winter

Equivalent Course(s): PHIL 23015, PHIL 33015, HIST 24905, FNDL 24905, HIPS 24901, HIST 34905

### CHSS 38900. Philosophy of Mind and Science Fiction. 100 Units.

Could computers be conscious? Might they be affected by changes in size or time scale, hardware, development, social, cultural, or ecological factors? Does our form of life constrain our ability to visualize or detect alternative forms of order, life, or mentality, or to interpret them correctly? How do assumptions of consciousness affect how we study and relate to other beings? This course examines issues in philosophy of mind raised by recent progress in biology, psychology, and simulations of life and intelligence, with readings from philosophy, the relevant sciences, and science fiction. (B) Instructor(s): W. Wimsatt Terms Offered: Spring

Equivalent Course(s): HIPS 25400, PHIL 23400, PHIL 33400

# CHSS 39405. Advanced Logic. 100 Units.

Since Russell's discovery of the inconsistency of Frege's foundation for mathematics, much of logic has resolved around the question of to what extent we can or cannot prove the consistency of the basic principles with which we reason. This course will explore two main efforts in this direction. We will first look at proof-theoretic efforts towards demonstrating the consistency of various foundational systems, discussing the virtues and limitations of this approach. We will then closely examine Godel's theorems, which are famous for demonstrating limits on the extent to which we can formulate consistency proofs. Much has been written on the implications of Godel's theorems, and we will spend some time trying to carefully separate what they really entail from what they do not entail. Assessment will be by regular homework sets. Intermediate logic or prior equivalent required. (II) and (B).

Instructor(s): K. Davey Terms Offered: Spring

Prerequisite(s): Elementary Logic or equivalent

Equivalent Course(s): PHIL 29405, HIPS 20905, PHIL 39405

# CHSS 40196. Cultural Evolution. 100 Units.

This course explores the nature of process of cultural evolution. After establishing a background on the characteristics of biological evolution, we consider topics in cultural evolution that explore similarities and differences between processes of biological and cultural evolution, and theoretical and conceptual innovations necessary to deal with the latter, using a variety of approaches and methodologies, including agent-based modeling, "big data" approaches, and case studies. These will include topics like: the nature of inheritance, the limits of 'memes', the role of cognitive development, the coevolution of cognition and lithic technology, the scaffolding and evolution of social support, institutions, organizations and firms, the structure of scientific communities, entrenchment and the emergence of conventions and standards, the role of technology, horizontal vs. vertical transmission, multichannel inheritance, economic markets, the nature of innovation, and the role of history.

Equivalent Course(s): EVOL 30196, PHIL 52805, SOCI 40196

### CHSS 40201. Religion and Reason. 100 Units.

The quarrel between reason and faith has a long history. The birth of Christianity was in the crucible of rationality. The ancient Greeks privileged this human capacity above all others, finding in reason the quality wherein man was closest to the gods, while the early Christians found this viewpoint antithetical to religious humility. As religion and its place in society have evolved throughout history, so have the standing of, and philosophical justification for, non-belief on rational grounds. This course will examine the intellectual and cultural history of arguments against religion in Western thought from antiquity to the present. Along the way, of course, we will also examine the assumptions bound up in the binary terms "religion" and "reason."

Equivalent Course(s): HIST 66606, PHIL 43011, KNOW 40201, CLAS 46616, DVPR 46616

### CHSS 40203. Biopolitics & Posthumanism. 100 Units.

Much has been written about the possibility (or impossibility) of creating an integrated political schema that incorporates living status, not species boundary, as the salient distinction between person and thing. In this course, we will explore how biopolitical and posthumanistic scholars like Michel Foucault, Hannah Arendt, Giorgio Agamben, Jane Bennett, Cary Wolfe, and Donna Haraway have acknowledged (and advocated transcending) the anthropocentric ümwelt, to borrow Jakob von Üexküll's influential term. In parallel with our theoretical readings, we will explore how actual legal systems have incorporated the nonhuman, with a particular focus on Anglo-American and transnational law. Our goal is to develop our own sense of an applied biopolitics-whether to our own research, to future legislation and jurisprudence, or both. Instructor(s): Nicolette I. Bruner Terms Offered: Winter

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. No instructor consent is required, but registration is not final until after the 1st week in order to give Ph.D. students priority.

Equivalent Course(s): KNOW 40203, ENGL 40203, CMLT 40203

### CHSS 40205. Ecological Thinking. 100 Units.

What is the environment, anyway? Is it a collection of resources? An entity in need of protection? An autonomous state of being? In this course, we will engage with writers and thinkers who have grappled with what it means to think ecologically. We will examine how environmental concerns have reached across borders to shape law, culture, and theories of knowledge on a global scale. Course themes will include environmental justice, the energy humanities, postcolonial environmentalisms, ecocriticism, ecofeminism, queer ecologies, and critical life studies. Readings will include works by Rachel Carson, William Cronon, Lawrence Buell, Helena Maria Viramontes, Christopher Stone, Rob Nixon, Tamara Giles-Vernick, Timothy Morton, and others.

Instructor(s): Nicolette I. Bruner Terms Offered: Winter Equivalent Course(s): KNOW 40205

### CHSS 40206. Assaulting the Paradigm: Franz Boas and His Contemporaries. 100 Units.

How do ideas succeed? What challenges do those who voice new ideas face as they try to gain adherents, and how do they rise to influence against the odds? This course examines how the unexpected, the unconventional, and the radically original can dethrone accepted truths. We will investigate this question through a case study of the anthropologist Franz Boas and his contemporaries, who assaulted the paradigm of race at the turn of the twentieth century. In addition to reading Boas, we will study the works of John Dewey, W. E. B. Du Bois, Sigmund Freud, Zora Neale Hurston, Claude Lévi-Strauss, Margaret Mead, and Thorstein Veblen. By tracing the mutual influence between Boas and thinkers in fields from psychology to philosophy, we can examine how knowledge is contested and propagated-including the challenges those who frame ideas face as they break away from the pack, the role of social networks in the success of concepts that go "against the grain" of conventional wisdom, and the special agency of multidisciplinary collaboration in the periods of ferment produced when authority is tested and new ideas are demanded.

Instructor(s): Isaiah Lorado Wilner Terms Offered: Winter

Equivalent Course(s): ANTH 44810, KNOW 40206

# CHSS 40207. Human Rights and Humanitarianism in the Modern World. 100 Units.

The related concepts of human rights and humanitarianism form the basis of contemporary ethical and political thought. Acting in the name of "humanity" is seen as unequivocally noble, and very few of us would ever claim to be antihumanitarian or anti-human rights. Yet the moral consensus surrounding these terms obscures a contested and often disturbing history. Rather than uncritically accepting a triumphalist story of the progressive victory of human rights and humanitarianism, this course will explore how these concepts were constructed over time, paying special attention to how they were used in practice, what kind of rhetorical work they accomplished, and whose interests they served. The course will consider the origins of modern concepts of humanity, rights, citizenship, and social responsibility during the enlightenment and trace how they developed over the course of the 19th and 20th centuries. We will study the role of human rights and humanitarianism in the transformative events and processes of modern history, including the rise of nation-states, the trans-Atlantic slave trade and its abolition, imperial expansion and decolonization, the world wars, and twentieth-century genocides. Students will leave the course with an understanding of how human rights and humanitarianism can be applied to their own research interests.

Instructor(s): Yan Slobodkin Terms Offered: Winter Equivalent Course(s): KNOW 40207, HMRT 40207

### CHSS 40208. Man and/as Machine. 100 Units.

Recently, Amazon employees fighting for better working conditions united under the slogan "We are not robots!" Recalling Karl Capek's R.U.R., which coined the word robot (from the Czech word for slave), the slogan suggests the importance of the machine as an object and a concept in relation to which human identity has been - and continues to be - defined. Throughout the history of human thought, the machine has existed as both something that we are like (for example, Descartes comparing the brain to a machine) but also as an opposite to humanity (as in the aforementioned slogan). This course will trace this tension between the machine as an 'Other' and as a metaphor for our human self from the early modern period to the present. Beginning with theoretical and philosophical writing on the importance of oppositions and binaries to human identity and language, it will trace the history of the idea of the machine as it relates to the human in texts by Rene Descartes, La Mettrie, Emile Zola, Karl Capek, Alan Turing, and Donna Haraway, among others. In addition to confronting the complexity and ambiguity of a concept that ubiquitously shapes our lives today, students in this course will also wrestle with broader humanistic questions regarding the nature of the Self, the boundaries between self and other, and the relationship between human identity and technology.

Instructor(s): Anastasia Klimchynskaya Terms Offered: Winter

Equivalent Course(s): KNOW 40208

# CHSS 40300. Case Studies on the Formation of Knowledge II. 100 Units.

The KNOW core seminars for graduate students are offered by the faculty of the Stevanovich Institute on the Formation of Knowledge. This two-quarter sequence provides a general introduction, followed by specific case studies, to the study of the formation of knowledge. Each course will explore 2-3 case study topics, and each case study will be team-taught within a "module."# A short research paper is required at the end of each quarter. Graduate students from every field are welcome. Those who take both quarters are eligible to apply for a SIFK 6th-year graduate fellowship. For more information, please email your questions to sifk@uchicago.edu Module 1 : Foundations of Psychology in Linguistics and Biology Robert Richards, John Goldsmith This module will examine the ways several established disciplines, particularly linguistics and biology, came together in the mid-19th century to establish the science of psychology. Both linguistics and biology offered empirical and theoretical avenues into the study of mind. Researchers in each advanced their considerations either in complementary or oppositional fashion. Module 2 : Origins of the Social Construction of Knowledge Robert Richards, Alison Winter This module will trace the development of the idea of the social construction of knowledge and its relation to philosophy and history of science. The development lit a spark, then created a conflagration, and yet still smolders. Module 3 : The Politics of Philosophical Knowledge

Equivalent Course(s): MAPH 40300, KNOW 40300, HIST 64901, MAPS 40301, SCTH 40300, CMLT 41803, EALC 50300, SOCI 40210

### CHSS 40304. Between Nature and Artifice: The Formation of Scientific Knowledge. 100 Units.

This course critically examines concepts of "nature" and "artifice" in the formation of scientific knowledge, from the Babylonians to the Romantics, and the ways that this history has been written and problematized by both canonical and less canonical works in the history of science from the twentieth century to the present. Our course is guided by three overarching questions, approached with historical texts and historiography, that correspond to three modules of investigation: 1) Nature, 2) Artifice, and 3) Liminal: Neither Natural nor Artificial.

Instructor(s): Margaret Carlyle, Eduardo Escobar, Jennifer P. Daly Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. Ph.D. students must register with the KNOW 40304 course number in order for this course to meet the requirement.

Equivalent Course(s): HIST 34920, HIPS 40304, GNSE 40304, CRES 40304, KNOW 40304

## CHSS 40305. The Archive of Early English Literature: Manuscripts, Books, and Canon. 100 Units.

This course will introduce students to early English literature through manuscript studies and book history. Throughout the course we will reflect on archival research as a critical practice: how do the material histories of early texts invite us to rethink the fundamental categories that organize literary history, like authorship or canonicity? The course will be both a practicum (teaching the basics of paleography, codicology, and textual editing) and an ongoing conversation about the archives of literary history, as sites of interpretation, memory, and erasure. We will meet in the Special Collections Research Center, and use the collections of the University of Chicago. We will first focus on the archives of Chicago's Chaucer Research Project and its principals, John Matthews Manly and Edith Rickert, who tried to establish an authoritative text of the Canterbury Tales in the early twentieth century. The second half of the course will propose and pursue a research project in the U of C or Newberry Library collections, on a topic of their choosing. Students will produce a piece of scholarship that reflects both careful research in those collections and thoughtfulness about the place of that research in critical practice.

# Instructor(s): J. Stadolnik Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. No instructor consent is required, but registration is not final until after the 1st week in order to give Ph.D. students priority.

Equivalent Course(s): ENGL 40305, KNOW 40305

### CHSS 40306. Race, Land, and Empire: History, Intersectionality, and the Meanings of America. 100 Units.

This seminar examines the making and meaning of the United States at the intersections of race, land, and empire. It considers a set of profound historical transformations that shape American and global life today: the conquest and colonization of the vast North American continent; the expansion of slavery and, with it, a system of global capitalism; the growth of opposition to that system of labor, culminating in the Civil War; the origins, as a result of that war, of a modern American nation-state; the ethnic cleansing and resettlement of the West; and the ascension of the United States of America to global eminence as a military power. Rather than framing these events within a national narrative about the idea of Manifest Destiny or an epic struggle toward the ideal of democracy-an approach that ignores most of the continent, divides the West from the North and South, and frames history itself as progress-this course makes use of a global lens to analyze the borders between and border crossings by American communities. Our foci will be the interrelations between regions and peoples; the processes that led to alteration; and the evolution of structures that redistributed social power Instructor(s): Isaiah Lorado Wilner Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. No instructor consent is required, but registration is not final until after the 1st week in order to give Ph.D. students priority.

Equivalent Course(s): HIST 37013, KNOW 40306

# CHSS 40307. Seeing and Knowing. 100 Units.

The concept of visuality attends to the ways in which things become seeable, knowable, and governable. Scholars who study optical instruments, architecture, cinema, and media have done much to show us how visual technologies change our ways of seeing. Others in the history of science study how practices of observation transform our understanding of natureand ourselves. This comparative course analyzes regimes of visuality in different cultural and historical contexts. After a short introduction on the philosophy of visual experience and psychology of visual perception, we will investigate a series of configurations of seeing and knowing. These sites range from the history of disability to contemporary climate science, and students will be asked to contribute visual topics from their own research or disciplines for collective exploration in our seminar. Through comparative study, we will work to develop new categories or relationships for linking perception and knowledge.

Instructor(s): Alex Campolo Terms Offered: Spring

Equivalent Course(s): ARTH 40307, CMST 47007, KNOW 40307

# CHSS 40308. Political Theologies of Slavery and Freedom in the Atlantic World. 100 Units.

This seminar examines the interdisciplinary form of knowledge known as "political theology" in the context of Atlantic slavery. The course will trace two major developments. First, we will explore how Christian metaphysics facilitated colonialism and slavery, focusing on the emergence of race as a theological (rather than a biological) concept and on the self-fulfiling providentialism that structured fantasies of Euro-Christian world dominance. Second, we will explore how indigenous and African cosmologies and Christianities informed enslaved resistance and abolitionism. Our readings will range from works of political theology (Augustine, Calvin, Hobbes) to early American writings (Las Casas, Ligon, Jefferson) to Black Atlantic anti-slavery texts (Wheatley, Walker, Turner). We'll consider the explorer George Best's rewriting of the biblical Curse of Ham, Francis Bacon's claim that Europe's superior technology evidenced its Chosen status, and the ideology of "hereditary heathenism" that forestalled early efforts to convert slaves to Christianity. Likewise, we'll consider the role of obeah in the Haitian Revolution, the competing attitudes toward Christian slave revolt found in fiction by Douglass and Stowe, and the continued contestation of what W. E. B. Du Bois called "the new religion of whiteness." Secondary authors may include Charles Taylor, Talal Asad, Max Weber, Colin Kidd, Rebecca Goetz, Jared Hickman, Katharine Gerbner, Jorge Cañizares-Esguerra, and J. Kameron Carter

Instructor(s): Alex Mazzaferro Terms Offered: Spring

Equivalent Course(s): CRES 30308, SCTH 40308, KNOW 40308

## CHSS 40310. Topics in Medical Anthropology. 100 Units.

This seminar will review theoretical positions and debates in the burgeoning fields of medical anthropology and science and technology studies (STS). We will begin this seminar exploring how "disease" and "health" in the early 19-century became inseparable from political, economic, and technological imperatives. By highlighting the epistemological foundations of modern biology and medicine, the remainder of this seminar will then focus on major perspectives in, and responses to, critical studies of health and medicine, subjectivity and the body, entanglements of ecology and health, humanitarianism, and psychoanalytic anthropology.

Instructor(s): P. Sean Brotherton Terms Offered: Winter. Winter 2021

Prerequisite(s): Strongly recommended: previous lower-division courses in the social studies of health and medicine through ANTH, HIPS, HLTH, or CHDV

Note(s): This is an advanced reading seminar. Among undergraduates, 3rd and 4th year students are given priority. Consent only: Use the online consent form via the registrar to enroll.

Equivalent Course(s): HIPS 24341, ANTH 40310, CHDV 40301, HLTH 24341, CRES 24341, ANTH 24341, CHDV 24341

### CHSS 40410. Technology and Aesthetics. 100 Units.

The idea of technological "progress" is a contested one, but it cannot be denied that innovation, at the very least, is a continuous process. Technological innovations regularly enable new mediums, new styles, new genres, and new subject matter as they offer us new ways to record the world, express ourselves, and tell stories. And because art is one of the fundamental lenses through which we see the world, the advent of new artistic and literary forms constantly offers us new ways to know. Each transformation in both creation and reception, however, raises anew fundamental theoretical questions: what is the difference between an objective record of the world and an artistic rendition of it? After touching briefly on the revolution brought about by Gutenberg's invention of the printing press, this class will span the 19th through the 21st centuries to explore how technological innovation has led to new literary and aesthetic forms. Though the primary focus will be no literary tests, the course is intended as an interdisciplinary one, incorporating visual art and media. Class sessions will include visits to the Rare Book Collection, local art museums, and, potentially, Chicago-area theatre performances. For their final projects, students will be able to choose between a research paper or a creative project that engages with the questions and concerns of the course.

Instructor(s): Anastasia Klimchynskaya Terms Offered: Spring Equivalent Course(s): KNOW 40310, ARTV 40310, ARTH 40311

# CHSS 42300. Scientific/Technological Change. 100 Units.

Equivalent Course(s): PHIL 30300, PHIL 20300, HIPS 20300

### CHSS 45101. Agriculture: Ancient and Modern. 100 Units.

This course surveys the history of agriculture and agrarian societies from the dawn of the Neolithic to the age of genetic modification and anthropogenic warming. Topics to be discussed include the origins of agriculture, domestication, population dynamics, soil husbandry, foodways, land tenure, dietary transitions, industrial agriculture, the Green Revolution, and climate change. We will read texts by James Scott, Emmanuel le Roy Ladurie, Elinor Ostrom, Deborah Fitzgerald, and others.

Instructor(s): P. Cheney Terms Offered: Winter

Prerequisite(s): Upper-level undergraduates with consent of instructors Equivalent Course(s): HIST 45101

# CHSS 45125. Seminar: Anthropology of the Body. 100 Units.

Drawing on a wide and interdisciplinary range of texts, both classic and more recent, this seminar will variously examine the theoretical debates of the body as a subject of anthropological, historical, psychological, medical and literary inquiry. The seminar will explore specific themes, for example, the persistence of the mind/body dualism, experiences of embodiment/ alienation, phenomenology of the body, Foucauldian notions of bio-politics, biopower, queering the body, and the medicalized, gendered, and racialized body, among other salient themes.

Instructor(s): P. Sean Brotherton Terms Offered: TBD. Not offered in 2020-21 Equivalent Course(s): GNSE 45112, ANTH 45125, CHDV 45100

# CHSS 47000. Reading And Research: CHSS. 100 Units.

Readings and Research for working on their PhD

# CHSS 50755. Race/Capital/Extraction. 100 Units.

In the concluding chapters of Capital, Vol. 1, Karl Marx describes the origins of capitalism as an enterprise "written in the annals of mankind in letters of blood and fire." This process that Marx christened as "so-called primitive accumulation" rests fundamentally on the extraction of raw materials through colonial regimes of enclosure and the brutal exploitation of racialized labor. Nonetheless, the relationship between race and capital is not sufficiently elaborated in Marx's oeuvre. In turn, this course will reconsider Marxist concepts and categories through a critical evaluation of the analytical domains of "race," "capital," and "extraction." Moreover, students will consider the extent to which these domains productively modify each other: Does capitalism as an economic system depend on race as its ideological substrate? Can race be understood as an extractive project founded the violent enslavement and mercantile transit of racialized laboring subjects? How are the production of race and the accumulation of capital transformed by extractive economies of fossil fuels and metallic ores? To this end, students will consult the writings of W.E.B. Du Bois, C.L.R. James, Claudia Jones, Walter Rodney, Sidney Mintz, Norman Girvan, Lloyd Best and Kari Polanyi Levitt.

Instructor(s): Ryan Jobson Terms Offered: Winter. Winter 2020

Equivalent Course(s): ANTH 50755, CRES 50755

### CHSS 51947. Techno-Natures: Anthropology and Science Fiction. 100 Units.

This graduate seminar explores science fiction narratives alongside anthropological theory and ethnographic practice in an attempt to develop novel theoretical and methodological interventions into questions concerning environment, governance, the body, and the relationship between humans and machines. In so doing the course aims to elaborate potential correspondences between anthropology and science fiction, with particular focus on re-conceptualizing nature in relation to post-apocalyptic narratives and crises of the Anthropocene. Following science fiction's speculative process, the course encourages a mode of inquiry that is experimental in order to explore the ways in which science fiction might operate as ethnographic thought experiment while challenging received understandings of the nature of empirical evidence. Course material will include science fiction texts as well as films.

Instructor(s): Michael Fisch Terms Offered: Winter. Winter 2019 Equivalent Course(s): ANTH 51947

CHSS 53709. Conceptual Change and the a-priori. 100 Units.

(II) and (III)Instructor(s): K. Davey Terms Offered: Winter Equivalent Course(s): PHIL 53709

# CHSS 54833. Engineered Worlds III: Terraformations. 100 Units.

This experimental seminar is part of a larger series of events in 2019-20 organized under the Engineered Worlds theme. It will be linked to activities on several other campuses as well as a spring 2020 conference. It examines the effects of industrial living on the biosphere and considers the multiple ways that people have been involved in terraforming planet earth. Attending to the ways that race, gender, and class inform industrial life, the seminar will explore (via social theory, ethnography, and history) ways of thinking about planetary scale problems that have local intensities that matter. This is an advanced graduate seminar. Registration is by permission of instructor.

Instructor(s): Joseph Masco Terms Offered: Autumn. Autumn 2019

Prerequisite(s): Consent of Instructor

Note(s): Course will involve Skyped in participants from another university.

Equivalent Course(s): ANTH 54833

# CHSS 55100. The Development of Whitehead's Philosophy of Nature. 100 Units.

Alfred North Whitehead's philosophy has seen a resurgence of academic interest in recent years via a line of influence passing through Deleuze and Latour. Meanwhile, Whitehead's Process and Reality (1929) has gained a reputation, not undeserved, as possibly the most challenging English language text in the philosophical canon; it is seldom read in a department of philosophy. This is a pity, since the striking originality and creative potential of the philosophy contained within is unmatched. This course offers an opportunity for a gradual approach to understanding the "philosophy of organism" of Process and Reality by first taking in the foothills of earlier and less obtuse Whitehead texts Concept of Nature and Science and the Modern World. We will supplement these readings with newly discovered notes from Whitehead's Harvard lectures (published just last year). These documents reveal Whitehead is meditative mood, thinking through in real time his philosophy of Process and Reality and so provide a more gentle ascent to the heady realms of "actual entities", "concrescence" and "conceptual feelings" described therein. (II)

Instructor(s): T. Pashby Terms Offered: Autumn

Equivalent Course(s): PHIL 55100, KNOW 55100

# CHSS 55978. AdvRdgs in Technoscience. 100 Units.

Advanced Readings Equivalent Course(s): ANTH 55973

CHSS 57400. Freud Wars: Hist & Philo Rdgs. 100 Units. Equivalent Course(s): HIST 57400

### CHSS 58108. The Philosophy of Howard Stein. 100 Units.

Howard Stein's impressive body of work is notable for its tight integration of history of science with philosophy of science. Topics include: theories of spacetime structure (Newtonian and relativistic), the conceptual structure of quantum mechanics, the methodology of science in general and the character of scientific knowledge, and the history of physics and mathematics. Readings by Stein will be supplemented by primary historical texts and secondary philosophical literature, including selections from a forthcoming edited collection on Stein. (II) Equivalent Course(s): PHIL 58108

# CHSS 66900. Colloquium: Reading Marx's Ecology. 100 Units.

In this course we will read Marx's own ideas in their historical context and then explore commentaries on them by Paul Burkett, John Bellamy Foster, and others to see what of Marx's ideas can be productively used in environmental history and in discussions of the Anthropocene.

Instructor(s): F. Albritton Jonsson & D. Chakrabarty Terms Offered: Spring Equivalent Course(s): HIST 66900

CHSS 70000. Advanced Study: Conceptual & Historical Studies of Science. 300.00 Units. Advanced Study: Conceptual & Historical Studies of Science



# Department of Economics

Department Website: http://economics.uchicago.edu Chair

Robert Shimer

Professors

- Ufuk Akcigit
- Fernando Alvarez
- Stéphane Bonhomme
- Leo Bursztyn
- David W. Galenson
- Mikhail Golosov
- Michael Greenstone
- Lars Peter Hansen
- James J. Heckman
- Ali Hortaçsu
- Greg Kaplan
- Steven Levitt
- John List
- Casey Mulligan
- Kevin M. Murphy
- Roger B. Myerson
- Derek A. Neal
- Philip J. Reny
- Azeem Shaikh
- Robert Shimer
- Nancy L. Stokey
- Harald Uhlig
- Alessandra Voena

Associate Professor

Assistant Professor

- Benjamin Brooks
- Manasi Deshpande
- Michael Dinerstein
- Peter Hull
- Thibaut Lamadon
- Simon Mongey
- Doron Ravid
- Max Tabord-Meehan
- Pietro Tebaldi
- Felix Tintelnot
- Alex Torgovitsky

Senior Lecturers

- Victor O. Lima
- Min Sok Lee
- Allen R. Sanderson
- Kotaro Yoshida

Lecturers

- Ryan Fang
- Kanit Kuevibulvanich

- Gina Pieters
- Christopher Roark

# **Emeritus Faculty**

- Arnold C. Harberger
- Robert E. Lucas, Jr.
- Hugo F. Sonnenschein
- Lester G. Telser
- George S. Tolley

Chicago is a particularly innovative department of economics. The proportion of new ideas in economics that have emanated from or become associated with Chicago over the last forty years is astonishing. Any definition of the Chicago School would have to find room for the following ideas (in chronological order from the 1940s to the present): the economic theory of socialism, general equilibrium theory, general equilibrium models of foreign trade, simultaneous equation methods in econometrics, consumption as a function of permanent income, the economics of the household, the rationality of peasants in poor countries, the economics of education and other acquired skills (human capital), applied welfare economics, monetarism, sociological economics (entrepreneurship, racial discrimination, crime), the economics of invention and innovation, quantitative economic history, the economics of information, political economy (externalities, property rights, liability, contracts), the monetary approach to international finance, rational expectations in macroeconomics, and mechanism design. The unifying thread in all this is not political or ideological but methodological, the methodological conviction that economics is an incomparably powerful tool for understanding society.

The Department of Economics offers a program of study leading to the Ph.D. degree. A general description of the program is given below. For a more detailed explanation of the program requirements, as well as complete course descriptions and faculty bios, see the information for current students on our website at: http://economics.uchicago.edu/graduate/.

### Admissions and Financial Aid

### Prerequisites and Preparation for Graduate Study

Each autumn, the Department of Economics enrolls an entering class of 20-25 graduate students who come from many countries around the world, and have been selected from a large and diverse group of applicants. Admission to graduate study requires a bachelor's degree (or equivalent). This degree need not be in economics, although some background in economics is certainly desirable. There are no formal course requirements for admission, but a strong background in mathematics is important. At the Ph.D. level, the study of economics requires an absolute minimum of one year of college calculus and a quarter (or semester) each of both matrix algebra and mathematical statistics (that is, statistics using calculus, as distinct from introductory statistics for social science). Prospective students who lack this preparation and have remaining free time in their undergraduate schedules are urged to take these courses before the beginning graduate study.

Beyond these basic prerequisites, many of our applicants have taken other advanced mathematics courses, such as real analysis, have completed some graduate-level classes in economics or related fields, or have had some other significant exposure to research in economics. Many strong applicants have ranked at or near the top of their graduating class.

### Admissions Process

Given the year-long sequence of courses, all new students must begin their study in the Autumn Quarter. The application process for admission and financial aid for Economics and all Social Sciences graduate programs is administered through the Divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines, and department specific information is available online at https://apply-ssd.uchicago.edu/apply/. Most required supplemental material can be uploaded into the application.

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

All applicants are required to submit scores from the Graduate Record Examination (GRE), General Test. Foreign applicants whose native language is not English must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). The current University minimum score requirements are provided with the application.

### Criteria for Admissions

The Committee on Admissions takes account of a wide range of factors to evaluate each applicant: the previous educational record, letters of recommendation, writing sample, previous research experience, the applicant's scores on the GRE (General Test) and the TOEFL or IELTS, the compatibility of the applicant's research interests with the program strengths in the department, and any special factors that the applicant may bring to the committee's attention. The committee evaluates each applicant on the basis of all material available; no arbitrary cut-offs in terms of a student's grade point average or test scores are used. Applications must be complete for the January review, including scores from the GRE and TOEFL or IELTS if appropriate. These exams should be taken no later than November 1. In deciding when to register for the exams, applicants should particularly note our yearly cycle in order to assure that their applications receive full consideration.

## Program of Study

The program of study for the Ph.D. degree in Economics includes courses and comprehensive examinations in the three "Core" subjects of Price Theory; the Theory of Income, Employment, and the Price Level; and Quantitative Methods. In addition to the Core, Ph.D. requirements include the demonstration of competence in two Specialized Fields of concentration, courses in three elective Fields for the General Distribution requirement, a Research Paper, the approval of a Thesis Proposal, and the completion of the Doctoral Thesis.

The usual load is three courses per quarter for two years; this permits the completion of nine courses during the regular academic year of three quarters. The comprehensive examination for the Core subjects is given in the Summer Quarter. An examination in each Specialized Field of concentration is given once a year.

Ph.D. students may request permission to choose electives outside the Department of Economics for Field or General Distribution requirements. Satisfactory grades on course work done at the graduate level at another institution may also be used to satisfy part of the course requirements for General Distribution by petition to the Director of Graduate Studies.

With good preparation, students normally take five years to complete the Ph.D. Students who begin with the intention of obtaining the Ph.D. but who change their plans or fail to satisfy the Ph.D. requirements will in most cases be eligible for an M.A. degree.

The program of a typical Ph.D. student consists of the following sequence: in the first year, courses in price theory, the theory of income, and quantitative methods prepare the student for the Core examinations which are taken in the following summer; in the second year, courses and participation in workshops prepare the student for certification in two Specialized Fields (one by exam and one by GPA or exam) and help the student identify a Research Paper topic; in the third and fourth years, the student completes his/her Research Paper and General Distribution requirements, participates in workshops, formulates a thesis topic, and presents a Thesis Proposal Seminar at which the faculty formally approves the topic and admits the student to candidacy; in the fifth year, the student completes his/her Doctoral Thesis and gives a Public Lecture.

# Courses

The department website offers descriptions of graduate courses scheduled for the current academic year: http:// economics.uchicago.edu/graduate/

## Joint Ph.D. Program In Financial Economics

The joint Ph.D. program in Financial Economics was established in the 2006-07 academic year and is run jointly by the Department of Economics in the Division of the Social Sciences and by the University of Chicago Booth School of Business (formerly the GSB). The aim of this program is to exploit the strengths of both sponsors in training Ph.D. students interested in financial economics. Core economics training is valuable for students seeking to do research in financial economics, and advances in financial economics have important spillovers to other areas of economics. It has long been a tradition in the Department of Economics to feature core economics training for their Ph.D. students, and the Booth School has well-recognized excellence in finance. Students in the joint program benefit from broad sets of instructors and classmates in both the Economics Department and the Booth School. They also hold an official status and are able to utilize resources in both Economics and the Booth School.

Upon completion of this program, students will be awarded a Doctor of Philosophy degree in Economics and Finance jointly from the Division of the Social Sciences and the Booth School.

# Program Elements

Students must satisfy the requirements for the Ph.D. degree in both programs. This is viable because of the considerable overlap in what the two programs expect of their students.

### Admissions

Admission to the joint program requires admission to both the doctoral program in the Department of Economics and to the doctoral program in the Booth School, but interested parties need only apply to one or the other program. Students may enter the joint program at the beginning of their doctoral studies. Those seeking admission to the joint program should apply online to either the Ph.D. program in the Department of Economics or the Booth School.

Students enrolled in doctoral studies in either the Economics Department or the Booth School may apply to the joint program at any time within their first two years in residence. Such students will still have to meet all of the requirements of both programs.

Enrollment and financial aid throughout a student's matriculation in the joint program will be administered by either the Division of the Social Sciences or the Booth School, as arranged by the two units. This designation will be for administrative purposes only and will not have programmatic implications. If a student's interests change, the Director of the Ph.D. program in the Booth School and the Dean of Students for the Social Sciences will facilitate transfers out of the joint program and into the doctoral program in Economics or Business.
# Economics Courses

# ECON 30100. Price Theory I. 100 Units.

Theory of consumer choice, including household production, indirect utility, and hedonic indices. Models of the firm. Analysis of factor demand and product supply under competitive and monopolistic conditions. Static and dynamic cost curves, including learning by doing and temporary changes. Uncertainty applied to consumer and producer choices. Property rights and the effects of laws. Investment in human and physical capital. Instructor(s): Kevin Murphy Terms Offered: Autumn

# ECON 30200. Price Theory II. 100 Units.

The first five weeks of this course are a continuation of ECON 30100, Price Theory I. The second half of the course will be devoted to the Walrasian model of general competitive equilibrium as developed by Arrow and Debreu. This will begin with a brief development of the consumer and producer theories, followed by the welfare theorems connecting equilibria and optima and a treatment of the classical existence of equilibrium theorem. The core of an economy, a limit theorem relating the core to the set of competitive equilibria, and models in which agents are small relative to the market will also be considered. Finally we will study general equilibrium under some alternative assumptions; such as, informational asymmetries and rational expectations equilibrium, public goods and Lindahl equilibrium, financial general equilibrium and asset pricing...

Instructor(s): Phil Reny Terms Offered: Winter

# ECON 30300. Price Theory III. 100 Units.

This course focuses on information economics, incentives and strategic settings with incomplete information. Topics include competitive markets with adverse selection, signaling, moral hazard, nonlinear pricing, strategic and informational incentive constraints, auctions, public goods, bilateral trade and optimal mechanism design. Instructor(s): Lars Stole Terms Offered: Spring

# ECON 30400. Introduction to Mathematical Methods In Economics. 000 Units.

This optional three-week course for incoming graduate students meets in early September and introduces some basic mathematical concepts used in economic theory: a "briefing" of the math students will encounter in the Core classes. Emphasis is placed on problem-solving, but also on some fairly abstract math you might not see otherwise. Cooperative work is strongly encouraged.

Instructor(s): Staff Terms Offered: Summer

Prerequisite(s): Econ PhD students only

# ECON 30501. Topics in Theoretical Economics. 100 Units.

Some of the topics covered in this course are: Nash equilibrium existence in discontinuous games, existence of monotone pure strategy equilibria in Bayseian games, defining sequential equilibrium in infinite extensive form games, efficient auction design, correlated information and mechanism design.

Instructor(s): Phil Reny Terms Offered: Winter

# ECON 30502. Topics in Theoretical Economics II. 100 Units.

This course will cover advanced topics in mechanism design and Bayesian games.

Instructor(s): B. Brooks Terms Offered: Spring

# ECON 30580. Rational Inattention. 100 Units.

The course is part of the mathematical economics graduate student sequence. Since Sims' (1998) seminal paper, there has been a growing interest in models of rational inattention. The course investigates these models and their economic consequences. We focus on Sims' model, going over its various solution methods and related applications. After spending some time on the Gaussian linear-quadratic specialization, we turn to the model's dynamic versions. We will then consider several generalizations and go over the model's foundations, if time permits.

Instructor(s): D. Ravid Terms Offered: Spring

# ECON 30600. The Economics of Information. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/) Equivalent Course(s): BUSN 33911

# ECON 31000. Empirical Analysis I. 100 Units.

This course introduces students to the key tools of econometric analysis. It covers basic OLS regression model, generalized least squares, asymptotic theory and hypothesis testing for maximum likelihood estimation, extremum estimators, instrumental variables, decision theory and Bayesian inference. Instructor(s): Azeem Shaikh Terms Offered: Autumn

# ECON 31100. Empirical Analysis II. 100 Units.

This course develops methods of analyzing Markov specifications of dynamic economic models. Models with stochastic growth are accommodated and their properties analyzed. Methods for identifying macroeconomic shocks and their transmission mechanisms are developed. Related filtering methods for models with hidden states are studied. The properties estimation and inference methods based on maximum likelihood and generalized method of moments are derived. These econometric methods are applied to models from macroeconomics and financial economics. Instructor(s): Lars Hansen & Thomas Sargent Terms Offered: Winter

# ECON 31200. Empirical Analysis III. 100 Units.

The course will review some of the classical methods you were introduced to in previous quarters and give examples of their use in applied microeconomic research. Our focus will be on exploring and understanding data sets, evaluating predictions of economic models, and identifying and estimating the parameters of economic models. The methods we will build on include regression techniques, maximum likelihood, method of moments estimators, as well as some non-parametric methods. Lectures and homework assignments will seek to build proficiency in the correct application of these methods to economic research questions.

Instructor(s): James Heckman & Magne Mogstad Terms Offered: Spring

# ECON 31703. Topics in Econometrics. 100 Units.

Graduate course covering recent research on the field of econometrics. Instructor(s): Bonhomme, Stephane Terms Offered: Spring

# ECON 31720. Applied Microeconometrics. 100 Units.

This course is about empirical strategies that are commonly used in applied microeconomics. The topics will include: control variables (matching), instrumental variables, regression discontinuity and kink designs, panel data, difference-in-differences, and quantile regression. The emphasis of the course is on identification and practical implementation. The course also covers the shortcomings of commonly used tools, and discusses recent theoretical research aimed at addressing these deficiencies. Instructor(s): Torgovitsky, Alex Terms Offered: Autumn

# ECON 31740. Optimization-Conscious Econometrics. 100 Units.

Modern research in econometrics often intersects with machine learning and big data questions. Likewise, while the overlap of econometrics with optimization and operations research has traditionally been limited, previously intractable large scale or combinatorially difficult econometrics problems are now being solved using modern optimization software and heuristics. This lays out a rich research agenda and opens up consequential new questions for econometricians. How can machine learning methods be used for econometric regression analysis and causal inference? How can modern optimization methods be applied to solve previously intractable econometric problems? What are the statistical consequences of changes made for numerical reasons? How does one do inference on the output of nonstandard optimization problems? At the heart of these new estimation and inference questions lies the need to design and understand estimators as the product of algorithms and optimization problem, not only the minimand and of objective functions. Instructor(s): G. Pouliot Terms Offered: Winter

Instructor(s): G. Pouliot Terms Offered: Wi

Equivalent Course(s): PPHA 48403

# ECON 31800. Advanced Econometrics. 100 Units.

Equivalent Course(s): BUSN 41911

# ECON 32000. Topics in American Economic History. 100 Units.

Economic analysis is applied to important issues in American economic history. Specific topics vary, but may include the following: the economics of colonization, the transatlantic slave trade, the role of indentured servitude and slavery in the colonial labor market, the record and sources of 19th-century economic growth, economic causes and effects of 19th-century immigration, the expansion of education, the economics of westward migration, determinants of long-run trends in the distribution of income and wealth, the quantitative analysis of economic and social mobility, and the economics of racial discrimination in the twentieth-century South.

Instructor(s): D. Galenson Terms Offered: Autumn

Prerequisite(s): ECON 20100

Equivalent Course(s): ECON 22200

# ECON 33000. Theory of Income I. 100 Units.

This course will use dynamic general equilibrium models to study macroeconomic questions. The first half of the quarter will focus on applications of the neoclassical growth model, including variants useful for studying the effects of capital, labor, and consumption taxes; the effects of general and investment specific technical change; the role of human capital accumulation, and the q-model of investment. On the technical side, this part of the course will rely heavily on the tools of optimal control theory (Hamiltonians) and on the First and Second welfare theorems. The second part of the course will focus on applications of stochastic dynamic programming. On the substantive side, particular topics include models of job search and asset pricing; models with idiosyncratic (insurable) and aggregate (uninsurable) risk; and dynamic tax smoothing. On the technical side, this part of the course will rely heavily on Bellman equations and other recursive modeling techniques. Instructor(s): Nancy Stokey Terms Offered: Autumn

#### ECON 33100. The Theory of Income II. 100 Units.

This course will explore a variety of macroeconomic models in which the welfare theorems do not necessarily hold, including overlapping generations models, equilibrium models with labor market search and matching frictions, economies with sticky prices and sticky wages, and environments in which money facilitates exchange. We will also explore the role of government policy within these models, including optimal taxation, optimal monetary policy, and the time consistency of these policies. If time permits, we will look at environments with non-convex adjustment costs, such as irreversible investment and fixed costs of changing prices.

Instructor(s): Mikhail Golosov Terms Offered: Winter

# ECON 33200. The Theory of Income III. 100 Units.

The course shares with the other two Theory of Income courses the objectives of (1) explaining human behavior as evidenced by aggregate variables and (2) predicting the aggregate effects of certain government policies. Economics 33200 considers some of the prevailing business cycle theories, and their application to the recession of 2008-9. Some hypotheses to be considered are the q-theory of housing investment, the neoclassical approach to fiscal policy, and whether government spending has a "multiplier." The course confronts several empirical issues that are also encountered outside the field of macroeconomics such as the construction of aggregate data, choice of data set, and the measurement of expectations. Instructor(s): Fernando Alvarez Terms Offered: Spring

# ECON 33502. Monetary Economics I. 100 Units.

Current research topics in monetary economics will be explored. Instructor(s): F. Alvarez Terms Offered: Autumn

# ECON 33530. Firm Dynamics and Economic Growth. 100 Units.

This class focuses on the theory and empirics of economic growth. The class will follow a micro-to-macro approach and hence special emphasis will be given to firms and inventors to uncover the determinants of aggregate productivity growth. In addition to some classic papers, the class will mainly focus on recent research. Students will be encouraged to discuss the frontier topics in class and produce new and exciting research ideas.

Instructor(s): U. Akcigit Terms Offered: Winter

# ECON 33580. Risk, Uncertainty and Value: Prices, Quantities, and Policies. 100 Units.

This class presents and applies tools for analyzing consequences of several kinds of uncertainty. The tools come from statistics, decision theory, and recursive macroeconomic theory. We combine them to assess the consequences of risk, ambiguity, and model misspecifications. The tools help understand observed fragilities in financial markets, consequences for investment when technologies are uncertain, and implications for macroeconomic policy when policy makers and the "people inside their models" both distrust statistical models.

Instructor(s): Hansen, L.; Sargent, T. Terms Offered: Spring

# ECON 33590. Topics in Latin American Macroeconomics and Development. 100 Units.

Topics in Latin American Macroeconomics and Development This course is designed to understand some of the macroeconomic problems of Latin American countries. It will go over different theoretical and empirical research motivated by the macroeconomic history of Latin America.

Instructor(s): Pablo Andrés Neumeyer Terms Offered: Winter Equivalent Course(s): LACS 55000

# ECON 33703. Financial Markets in the Macroeconomy. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 33948

# ECON 33820. Advanced Macro Reading Group. 100 Units.

This is a weekly reading group discussing recent literature in macroeconomics.

# ECON 34430. Topics in Labor Markets: Earnings and Employment. 100 Units.

The class will cover recent developments in the understanding of the determinants of employment and earnings in the labor market. We will start by studying extensive and intensive labor supply decisions in the short and long run and their implications for macro and micro elasticities. We will then look at the effect of uncertainty in earnings by studying the joint dynamics of earnings and consumption. The next section is concerned with labor demand and in particular how skills demand has impacted inequality. Finally, the course will cover models with two-sided heterogeneity with complementarities, sorting and mobility frictions. The methods presented in the course will range from nonparametric econometrics methods to solving equilibrium and dynamic contracting problems. Students should expect to learn how to work with data and how to develop, solve and evaluate structural models of the labor market.

Instructor(s): T. Lamadon Terms Offered: Autumn

# ECON 34930. Inequality: Theory, Methods and Evidence. 100 Units.

This course will explore the theory, methodology and evidence of economic inequality. Instructor(s): James Heckman and Steve Durlauf Terms Offered: Spring Equivalent Course(s): PPHA 33230

# ECON 35003. Human Capital, Markets, and the Family. 100 Units.

Graduate course focusing on recent economic literature relating to human capital, markets and family economics. Instructor(s): Heckman, James Terms Offered: Winter

# ECON 35050. Asset Pricing I. 100 Units.

TBD Equivalent Course(s): BUSN 34901

# ECON 35060. Asset Pricing II. 100 Units.

TBD Equivalent Course(s): BUSN 34902

# ECON 35070. Corporate Finance I. 100 Units.

TBD

Equivalent Course(s): BUSN 34903

# ECON 35080. Corporate Finance II. 100 Units.

TBD

Equivalent Course(s): BUSN 34904

# ECON 35101. International Macroeconomics and Trade. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 33946

# ECON 35310. Topics in International Trade and Growth. 100 Units.

#### ECON 35340. Macroeconomics and Financial Frictions. 100 Units.

This course looks into the relationship between prices and allocations of risks on financial markets versus macroeconomic choices and allocations.

Instructor(s): Harald Uhlig Terms Offered: Winter

# ECON 35520. Development Economics: Microeconomic Issues. 100 Units.

This class is intended to teach the foundations for doing research in Development Economics. As such, it will teach in detail empirical methods and theoretical models which are applied widely across the discipline. Instructor(s): Michael Kremer Terms Offered: Autumn

ECON 35600. Development Economics. 100 Units.

# This course covers theoretical models and empirical methods in development economics. Topics include health, education, household economics, small and medium enterprise finance, technology adoption, corruption, and the intersection of behavioral economics and development. The course will also review a range of research designs including experiments, natural experiments, and structural approaches.

Instructor(s): Michael Kremer Terms Offered: Autumn

# ECON 36000. Public Finance I. 100 Units.

This Ph.D.-level course provides the conceptual and theoretical foundations of public finance by dealing with a large number of concepts, models, and techniques that are used in the research on public finance. A command of the positive analysis of the incidence of government policies is fundamental to the study of most problems of public finance; positive analysis is emphasized throughout the course. Among the topics are: measurements of changes in welfare; economy-wide incidence of taxes; effects of taxation on risk-taking, investments, and financial markets; corporate taxation; taxation of goods and services; taxation of income; taxation and savings; positive problems of redistribution; and tax arbitrage, tax avoidance, tax evasion, and the underground economy.

Prerequisite(s): Open to Ph.D. students; other students may enroll with consent of the instructor. Equivalent Course(s): PPHA 42500

# ECON 36200. Public Sector Economics. 100 Units.

The concept of "market distortion" is used to formulate measurements, explanations, and consequences of government activities including tax systems, expenditure programs, and regulatory arrangements. Topics include cross-country comparisons of government behavior, predicting microlevel responses to policy, measuring and evaluating the incidence of government activity, alternative models of government decision-making, and the application of public finance to other economics fields.

Instructor(s): Casey Mulligan Terms Offered: Autumn

# ECON 36320. Advanced Price Theory. 100 Units.

TBD

# ECON 36330. New Developments in Public Finance. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Instructor(s): Gottlieb, Zwick and Zimmerman Equivalent Course(s): BUSN 35916

# ECON 36730. Energy and Environmental Economics I. 100 Units.

This course will emphasize the economics of natural resource production and problems associated with externalities and common property, with a focus on the energy sector. Most lectures will be theoretical in nature, but we will spend considerable time studying applications that have an empirical component. The course has several complementary objectives: (1) provide a solid foundation in concepts like Hotelling's Rule and Pigouvian taxation that are a prerequisite for understanding modern environmental and resource economics; (2) develop proficiency with theoretical, computational, and empirical tools that will be valuable for future self-directed research; and (3) gain experience in reading, presenting, and discussing modern research in energy and environmental economics.

Instructor(s): Kellogg Terms Offered: Autumn

Equivalent Course(s): PPHA 44320

# ECON 36740. Environmental and Energy Economics II. 100 Units.

Graduate field sequence course focusing on energy and environmental economics. Instructor(s): Michael Greenstone Terms Offered: Winter Equivalent Course(s): PPHA 44330

# ECON 36750. Energy and Environmental Economics III. 100 Units.

Optimal environmental regulation requires an analysis of the trade-o s between market and regulatory imperfections. Market allocations are inefficient in the presence of imperfections such as externalities, market power, and informational asymmetries. On the other hand, government intervention to mitigate these imperfections is not costless, and can even make market performance worse. This course focuses on recent empirical analysis of the costs and benefits of environmental and energy policies, including an introduction to the relevant econometric methodologies such as randomized controlled trials, regression discontinuity designs, bunching analysis, and structural estimation. Topics will include: energy demand and the energy efficiency gap, fuel economy and appliance efficiency standards, non-linear and real-time electricity pricing, wholesale electricity markets, renewable electricity policies, natural gas markets, retail gasoline markets, and technology innovations.

Instructor(s): Ito, K Terms Offered: Spring Prerequisite(s): PPHA 44330 Equivalent Course(s): PPHA 44340

# ECON 36770. Economics of Education. 100 Units.

Graduate level economics course relating to the economics of education markets. Instructor(s): Dinerstein, Michael Terms Offered: Spring

# ECON 36820. Empirical Topics in Social Insurance. 100 Units.

Graduate course focusing on recent empirical economic literature in social insurance. Instructor(s): Deshpande, Manasi Terms Offered: Spring

# ECON 38102. Applied Macroeconomics: Heterogeneity and Macro. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Instructor(s): Kekre & Vavra Equivalent Course(s): BUNN 33949

Equivalent Course(s): BUSN 33949

# ECON 39600. Topics in Asset Pricing. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 35907

# ECON 40201. Advanced Industrial Organization II. 100 Units.

Course Search Instructor(s): Ali Hortacsu Terms Offered: Winter Equivalent Course(s): BUSN 33922

# ECON 40301. Advanced Industrial Organization III. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/oursesearch/) Instructor(s): Dennis Carlton Terms Offered: Spring Equivalent Course(s): BUSN 33923

# ECON 40401. Advanced Industrial Organization IV. 100 Units.

Fourth course in the Industrial Organization sequence. Instructor(s): Tebaldi, P. Terms Offered: Autumn

# ECON 41150. Behavioral Finance. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 35906

# ECON 41165. Behavioral Economics - Field Experiments. 100 Units.

TBD Terms Offered: TBD Equivalent Course(s): BUSN 38917

# ECON 41175. Behavioral Economics - Development & Observational Data. 100 Units.

TBD Terms Offered: TBD Equivalent Course(s): BUSN 38916

# ECON 41185. Behavioral Economics - Theory & the Lab. 100 Units.

TBD Terms Offered: TBD Equivalent Course(s): BUSN 38918

# ECON 42800. Creativity. 100 Units.

This seminar examines recent research on how creative people innovate in a wide range of intellectual activities. The main project for the course is a term paper that analyzes the creative life cycle of one or more innovators of the student's choice, using both quantitative and qualitative evidence. Students present their research in progress for discussion. The seminar is designed to give students all the tools needed to do this research, including choosing a subject, finding and using an appropriate data set, and negotiating the relevant scholarship.

Instructor(s): D. Galenson Terms Offered: Winter Prerequisite(s): ECON 20100

Equivalent Course(s): ECON 22650

# ECON 42900. Innovators. 100 Units.

Economists believe that innovation is a primary source of economic growth. Yet although most innovations are made by individuals or small groups, until recently economists have not studied how those exceptional people produce their discoveries. Recent research has shown that there are two very different types of innovators, who have different goals and follow different processes. This course surveys this research, examining the careers and innovations of important practitioners in a range of modern arts, including painters, novelists, sculptors, poets, movie directors, photographers, songwriters, and architects, as well as entrepreneurs and scientists. The material covered in this course adds a new dimension to our understanding of creativity and of how innovators in many different activities produce new forms of art and science. Instructor(s): D. Galenson Terms Offered: Autumn

Prerequisite(s): ECON 20100 Equivalent Course(s): ECON 22600

# ECON 49700. Research Seminar. 100 Units.

The Required Research Seminar/Paper is designed to introduce the Ph.D. student to the demands and excitement of research, promote early contact with the faculty, and introduce the process of selecting a research topic and writing about it. (The thesis itself comes later and may be on a different topic.) Every student is required to write a research paper under faculty supervision by taking the Required Research Seminar.

Equivalent Course(s): BUSN 35930

# ECON 49800. Research Seminar. 100 Units.

Course Search

Equivalent Course(s): BUSN 35931

# ECON 49900. Required Research Paper. 100 Units.

The Required Research Seminar/Paper is designed to introduce the Ph.D. student to the demands and excitement of research, promote early contact with the faculty, and introduce the process of selecting a research topic and writing about it. (The thesis itself comes later and may be on a different topic.) Every student is required to write a research paper under faculty supervision by taking the Required Research Seminar. Equivalent Course(s): BUSN 35932

Equivalent Course(s): BUSIN 55952

# ECON 50000. Workshop in Economic Theory. 100 Units.

Faculty led workshop presenting current research in economic theory. Instructor(s): Reny, Philip Myerson, Roger Sonnenschein, Hugo Terms Offered: Autumn, Spring, Winter

# ECON 50300. Becker Applied Economics Workshop. 100 Units.

Faculty led workshop presenting current research in applied economics. Instructor(s): List, John Greenstone, Michael Mogtsad, Magne Terms Offered: Autumn, Spring, Winter

# ECON 51200. Workshop: Econometrics. 100 Units.

Faculty led workshop presenting current research in econometrics. Instructor(s): Heckman, James Hansen, Lars Peter Hickman, Brent Shaikh, Azeem Terms Offered: Autumn, Spring, Winter

# ECON 51400. Econometrics and Statistics Colloquium. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 41600

# ECON 53000. Workshop: Money and Banking. 100 Units.

Faculty led workshop presenting current research in Money and Banking. Instructor(s): Alvarez, Fernando Shimer, Robert Hansen, Lars Peter Lucas, Robert E. Stokey, Nancy Terms Offered: Autumn,Spring,Winter

# ECON 54300. Applied Economics Workshop. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 33610

# ECON 55600. Seminar: Finance. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 35600

# ECON 56300. Public Policy and Economics Workshop. 100 Units.

This is a workshop; Only open to PhD students and is an audit only course Equivalent Course(s): PPHA 51500

# ECON 57000. Workshop in Macro and International Economics. 100 Units.

Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) Equivalent Course(s): BUSN 33650

# ECON 58700. Workshop in Family Economics. 100 Units.

Faculty led workshop presenting current research in family economics. Instructor(s): Voena, Alessandra Heckman, James Mogstad, Magne Lamadon, Thibaut Terms Offered: Autumn,Spring,Winter

# ECON 58900. Workshop: Demography. 100 Units.

This workshop is sponsored by the Committee on Demographic Training in collaboration with the Population Research Center of NORC and the University. Visitors from other campuses as well as Chicago faculty discuss current research activities in population studies. PQ: Must Register for an R

Equivalent Course(s): SOCI 60001

# ECON 59000. Workshop: Applications of Economics. 100 Units.

Faculty led workshop presenting current research in economics applications. Instructor(s): Hortacsu, Ali Voena, Allesandra Hickman, Brent Philipson, Tomas Akcigit, Ufuk Terms Offered: Autumn,Spring,Winter

# ECON 59200. Workshop: Economic Policy/Public Finance. 100 Units. TBD

# ECON 59900. Thesis Preparation: Economics. 100 Units.

This course is designed for advanced thesis preparation work sponsored by a faculty member.

Instructor(s): Ufuk Akcigit Fernando Alvarez Stéphane Bonhomme Benjamin Brooks Leo Bursztyn Manasi Deshpande Michael Dinerstein David Galenson Michael Greenstone Lars Hansen Jim Heckman Brent Hickman Ali Hortaçsu Greg Kaplan Thibaut Lamadon Steve Levitt John List Magne Mogstad Casey Mulligan Kevin Murphy Roger Myerson Derek Neal Doron Ravid Phil Reny Larry Schmidt Azeem Shaikh Rob Shimer Nancy Stokey Pietro Tibaldi Felix Tintelnot Harlad Uhlig Richard van Weelden Alessandra Voena Bob Lucas Hugo Sonnenschein Terms Offered: Autumn,Spring,Summer,Winter

# ECON 60200. Working Group: Applied Micro. 100 Units.

Faculty and graduate student led working group presenting graduate student research in applied microeconomics. Instructor(s): Mogstad, Magne Dinerstein, Michael Voena, Alessandra Levitt, Steve Greenstone, Michael Terms Offered: Autumn,Spring,Winter

# ECON 60250. Student Applied Micro Working Group. 100 Units.

Graduate student led working group presenting graduate student research in applied microeconomics. Instructor(s): Steve Levitt Terms Offered: Autumn Spring Winter

# ECON 60300. Working Group: Economic Dynamics. 100 Units. TBD

# ECON 60310. Economics Dynamics. 100 Units.

Faculty and graduate student led working group presenting current research in economic dynamics. Instructor(s): Hansen, Lars Peter Alvarez, Fernando Terms Offered: Autumn,Spring,Winter

# ECON 60400. Working Group: Economic Theory. 100 Units.

Faculty and graduate student led working group presenting graduate student research in economic theory. Instructor(s): Sonnenschein, Hugo Myerson, Roger Reny, Phil Van Weelden, Richard Terms Offered: Autumn,Spring,Winter

# ECON 60600. Working Group: Capital Theory. 100 Units.

Faculty and graduate student led working group presenting graduate student research in capital theory economics. Instructor(s): Stokey, Nancy Alvarez, Fernando Shimer, Robert Terms Offered: Autumn, Spring, Winter

# ECON 60700. Working Group: International Development. 100 Units.

TBD

# ECON 60900. Working Group: Applied Macroeconomic Theory. 100 Units.

Faculty and graduate student led working group presenting graduate student research in macroeconomic theory. Instructor(s): Alvarez, Fernando Terms Offered: Autumn,Spring,Winter

# ECON 61000. Working Group: Demography Workshop Post-Mortem. 100 Units.

The Post-Mortem Seminar meets immediately following the Demography Workshop each week. The 30 minute discussion occurs immediately after the workshop, offering attendees opportunities to explore the theoretical claims, methods, and findings presented at the Demography Workshop, as well as to consider ethical issues embodied in the presented research and how we can engage in the responsible conduct of research. The PM seminar is led by faculty members and postdoctoral fellows with expertise in the demography and economics of aging, providing attendees with opportunities for intellectual engagement with area experts in a casual discussion-based setting.

Equivalent Course(s): SOCI 60015

# ECON 61100. Industrial Organization Working Group. 100 Units.

Faculty and graduate student led working group presenting graduate student research in industrial organization. Terms Offered: Autumn, Spring, Winter

# ECON 61300. EPIC Working Group. 100 Units.

Faculty and graduate student led working group presenting current research in energy and environmental economics. Instructor(s): Greenstone, Michael Terms Offered: Autumn,Spring,Winter

# ECON 61400. Working Group in Econometrics. 100 Units.

Faculty and graduate student led working group presenting graduate student research in econometrics. Instructor(s): Shaikh, Azeem Terms Offered: Autumn,Spring,Winter

#### ECON 61500. Trade Working Group. 100 Units.

Faculty and graduate student led working group presenting graduate student research in trade economics. Instructor(s): Tintelnot, Felix Dingel, Jonathan Terms Offered: Autumn,Spring,Winter

# ECON 61810. Macrofinance, Financial Intermediation and Banking Working Group. 100 Units.

Faculty and graduate student led working group presenting graduate student research in economic theory. Instructor(s): H. Uhlig Terms Offered: Autumn Spring Winter

Prerequisite(s): Consent of instructor

# ECON 63100. Macro Reading Group. 100 Units.

This is a "Sargent-style" reading group for PhD students in their third year or above with an interest in macroeconomics, very broadly defined. Students are required to read a paper of their choice every week, attend a 1.5 hr meeting each week and give regular presentations of various forms and lengths. Active and regular participation is compulsory. Instructor(s): Greg Kaplan Terms Offered: Autumn,Spring,Winter

# ECON 63500. Job Placement Working Group. 000 Units. TBD

# ECON 70000. Advanced Study: Economics. 300.00 Units.

Advanced Study: Economics



# Committee on Geographical Sciences

# Faculty

- Luc Anselin, Sociology (Chair)
- Luis Bettencourt, Ecology and Evolution
- Marc Berman, Psychology
- Kathleen Cagney, Sociology
- Michael Conzen
- Terry Clark, Sociology
- · Sabrina Shaikh, Environmental and Urban Studies
- Xi Song, Sociology
- Emily Talen, Social Sciences
- Robert Vargas, Sociology

Lecturers

- Kevin Credit
- Marynia Kolak

The Committee on Geographical Sciences pursues a geospatial perspective on fundamental issues in the urban, environmental, and social sciences. The main area of interest is the interaction between physical/natural environments, built environments, and people, utilizing a geospatial perspective and methodology to explore issues that impact neighborhoods, cities, regions, and global communities. Example topics include: cultural landscapes and morphological agency, the social justice of urban design, the impact of climate change on urban sustainability, and the geo-visualization of economic disparities. Our faculty pursue research that is spatial, place-based, and policy-oriented.

The Committee on Geographical Sciences supports course work and research opportunities for graduate students in the University. Students from degree programs in different divisions can work with members of the committee for specialized training. The Committee also supports the Concentration in Geographic Information Science in the Master of Arts Program in Social Sciences (MAPSS) (https://geography.uchicago.edu/content/new-mapss-geographic-informationscience-concentration/).

Considerable resources to support research in geographical sciences and spatial analysis exist both at the University and in the Chicago area. The Regenstein Library contains a considerable map collection, a unique repository of geography monographs and many specialized holdings. The Newberry Library in downtown Chicago is home to the Hermon Dunlap Smith Center for the History of Cartography which is the home of a world class collection of antique and historical maps.

In addition, several research centers at the University focus on topics germane to geographical sciences, urban studies and spatial analysis.

The Center for Spatial Data Science (https://spatial.uchicago.edu (https://spatial.uchicago.edu/)) (https:// spatial.uchicago.edu)) develops state of the art methods for geospatial analysis, spatial econometrics, and geo-visualization; implements them through open source software tools; applies them to policy-relevant research in the social sciences; and disseminates them through training and support. It is the home of the GeoDa software for spatial analysis, which has close to 250,000 users world-wide.

The Population Research Center (https://voices.uchicago.edu/popcenter/) (https://voices.uchicago.edu/popcenter/)/) focuses on research on human and social capital in an urban context. This urban emphasis is rooted in the emerging significance of global trends in urbanization, and the ongoing and pressing concerns regarding urban populations in the U.S. With this focus, the tools of demography and theoretical precepts of human and social capital can be brought to urban studies.

The Violence, Law, and Politics Lab (https://vlplab.com/) studies how local, national, and global politics affect the geography and prevalence of violence in cities and neighborhoods. The lab is interdisciplinary and multi-method and currently focuses on whether violence in American cities can be reduced via increased government accountability, transparency, and the provision of humanitarian or economic assistance.

The Environmental Neuroscience Lab (https://voices.uchicago.edu/bermanlab/) (https://voices.uchicago.edu/ bermanlab/) researches how the physical environment affects the brain and behavior. Specifically, it focuses on how physical low-level features of nature (such as color and spatial properties) relate to improvements in global brain network connectivity. The lab aims to gain a better understanding and quantification of the relationships between the brain and the environment in order to influence to design of physical environments in ways that will optimize human mental and physical health.

The University of Chicago Research Computing Center (RCC) provides specialized support for Geographic Information Sciences (https://gis.rcc.uchicago.edu/) (https://gis.rcc.uchicago.edu)). RCC-GIS supports users who want to incorporate GIS methods and software as well as a range of spatial analysis tools. It offers services related to cartography,

data mining and transformation, spatial statistics, and software solutions. RCC-GIS also offers a range of specialized workshops and bootcamp courses on GIS and spatial analysis software and methods.

More information about the Committee on Geographical Sciences can be found at https://geography.uchicago.edu.

# Geographical Studies Courses

## GEOG 30116. Global-Local Politics. 100 Units.

Globalizing and local forces are generating a new politics in the United States and around the world. This course explores this new politics by mapping its emerging elements: the rise of social issues, ethno-religious and regional attachments, environmentalism, gender and life-style identity issues, new social movements, transformed political parties and organized groups, and new efforts to mobilize individual citizens.

Instructor(s): T. Clark Terms Offered: Winter

Equivalent Course(s): HMRT 20116, SOCI 20116, GEOG 20116, HMRT 30116, SOCI 30116, PBPL 27900, LLSO 20116

# GEOG 30120. Urban Policy Analysis. 100 Units.

This course addresses the explanations available for varying patterns of policies that cities provide in terms of expenditures and service delivery. Topics include theoretical approaches and policy options, migration as a policy option, group theory, citizen preference theory, incrementalism, economic base influences, and an integrated model. Also examined are the New York fiscal crisis and taxpayer revolts, measuring citizen preferences, service delivery, and productivity.

Instructor(s): T. Clark Terms Offered: Autumn

Equivalent Course(s): SOCI 20120, SOCI 30120, GEOG 20120, PBPL 24800

# GEOG 30500. Introduction to Spatial Data Science. 100 Units.

Spatial data science consists of a collection of concepts and methods drawn from both statistics and computer science that deal with accessing, manipulating, visualizing, exploring and reasoning about geographical data. The course introduces the types of spatial data relevant in social science inquiry and reviews a range of methods to explore these data. Topics covered include formal spatial data structures, geovisualization and visual analytics, rate smoothing, spatial autocorrelation, cluster detection and spatial data mining. An important aspect of the course is to learn and apply open source software tools, including R and GeoDa.

Instructor(s): L. Anselin and M. Kolak Terms Offered: Autumn

Prerequisite(s): STAT 22000 (or equivalent), familiarity with GIS is helpful, but not necessary Equivalent Course(s): ENST 20510, GEOG 20500, SOCI 20253, MACS 54000, SOCI 30253

# GEOG 31900. Historical Geography of the United States. 100 Units.

This course examines the spatial dynamics of empire, the frontier, regional development, the social character of settlement patterns, and the evolution of the cultural landscapes of America from pre-European times to 1900. All-day northern Illinois field trip required.

Instructor(s): M. Conzen Terms Offered: Autumn

Note(s): This course offered in even years.

Equivalent Course(s): GEOG 21900, HIST 38800, HIST 28800

# GEOG 32101. Changing America in the Last 100 Years. 100 Units.

This course explores the regional organization of U.S. society and its economy during the pivotal twentieth century, emphasizing the shifting dynamics that explain the spatial distribution of people, resources, economic activity, human settlement patterns, and mobility. We put special focus on the regional restructuring of industry and services, transportation, city growth, and cultural consumption. Two-day weekend field trip to the Mississippi River required. This course is part of the College Course Cluster program: Urban Design.

Instructor(s): Michael Conzen Terms Offered: Winter

Equivalent Course(s): HIST 27506, HIST 37506, GEOG 22101

# GEOG 32700. Urban Structure and Process. 100 Units.

This course reviews competing theories of urban development, especially their ability to explain the changing nature of cities under the impact of advanced industrialism. Analysis includes a consideration of emerging metropolitan regions, the microstructure of local neighborhoods, and the limitations of the past American experience as a way of developing urban policy both in this country and elsewhere.

Instructor(s): M. Garrido Terms Offered: Spring

Equivalent Course(s): CRES 20104, GEOG 22700, ENST 20104, SOCI 20104, SOSC 25100, ARCH 20104, SOCI 30104

# GEOG 33003. Urban Europe, 1600-present. 100 Units.

This course examines the growth, structure, and, on occasion, decline of European towns and cities from the seventeenth century to the present. The focus throughout is on questions directly related to the positioning, form, and function of urban communities and to the efforts of interest groups and policy makers to shape and promote the fortunes of these communities. The course is interdisciplinary in spirit and content, drawing on the contributions of historians, geographers, sociologists, economists, demographers, political scientists, urban planners, and others. There are no prerequisites; the readings and lectures cover whatever needs to be known about theories, methods, and the European context.

Instructor(s): J. Craig Terms Offered: Winter

Equivalent Course(s): GEOG 23003, HIST 23003, HIST 33003

# GEOG 33500. Urban Geography. 100 Units.

This course examines the spatial organization and current restructuring of modern cities in light of the economic, social, cultural, and political forces that shape them. It explores the systematic interactions between social process and physical system. We cover basic concepts of urbanism and urbanization, systems of cities urban growth, migration, centralization and decentralization, land-use dynamics, physical geography, urban morphology, and planning. Field trip in Chicago region required. This course is part of the College Course Cluster, Urban Design.

Instructor(s): M. Conzen Terms Offered: Winter

Note(s): This course offered in even years.

Equivalent Course(s): ARCH 24660, GEOG 23500, ENST 24660

# GEOG 33700. Geographical Issues in Housing and Community Development. 100 Units.

This course is part of the College Course Cluster, Urban Design.

Instructor(s): M. Conzen Terms Offered: Spring. This course offered in even years. Prerequisite(s): Open to Chicago Studies Program students.

Equivalent Course(s): PBPL 23700, GEOG 23700

# GEOG 34100. Urban Design: The Chicago Experience. 100 Units.

This course examines the theory and practice of urban design at the scale of block, street, and building--the pedestrian realm. Topics include walkability, the design of streets, architectural style and its effect on pedestrian experience, safety and security in relation to accessibility and social connection, concepts of urban fabric, repair and placemaking, the regulation of urban form, and the social implications of civic spaces. Students will analyze normative principles and the debates that surround them through readings and discussion, as well as firsthand interaction with the urbanism of Chicago. Equivalent Course(s): SOSC 26001, GEOG 24100, PBPL 24105, SOSC 36001

# GEOG 34300. Chicago by Design. 100 Units.

This course examines the theory and practice of urban design at the scale of block, street and building - the pedestrian realm. Topics include walkability, the design of streets, architectural style and its effect on pedestrian experience, safety and security in relation to accessibility and social connection, concepts of urban fabric, repair and placemaking, the regulation of urban form, and the social implications of civic spaces. Students will analyze normative principles and the debates that surround them through readings and discussion as well as first hand interaction with the urbanism of Chicago.

Instructor(s): E. Talen Terms Offered: Spring

Prerequisite(s): Offered at the Graduate level only

Equivalent Course(s): PPHA 37225, SOSC 36003

# GEOG 34600. Introduction to Urban Sciences. 100 Units.

This course is a grand tour of conceptual frameworks, general phenomena, emerging data and policy applications that define a growing scientific integrated understanding of cities and urbanization. It starts with a general outlook of current worldwide explosive urbanization and associated changes in social, economic and environmental indicators. It then introduces a number of historical models, from sociology, economics and geography that have been proposed to understand how cities operate. We will discuss how these and other facets of cities can be integrated as dynamical complex systems and derive their general characteristics as social networks embedded in structured physical spaces. Resulting general properties of cities will be illustrated in different geographic and historical contexts, including an understanding of urban resource flows, emergent institutions and the division of labor and knowledge as drivers of innovation and economic growth. The second part of the course will deal with issues of inequality, heterogeneity and (sustainable) growth in cities. We will explore how these features of cities and opportunities to different individuals and how these appear as spatially concentrated (dis)advantage that shape people's life courses. We will show how issues of inequality also have consequences at more macroscopic levels and derive the general features of population and economic growth for systems of cities and nations.

Instructor(s): Luis Bettencourt Terms Offered: Autumn Prerequisite(s): STAT 22000

Equivalent Course(s): SOCI 20285, GEOG 24600, PBPL 24605, ENST 24600

# GEOG 35500. Biogeography. 100 Units.

This course examines factors governing the distribution and abundance of animals and plants. Topics include patterns and processes in historical biogeography, island biogeography, geographical ecology, areography, and conservation biology (e.g., design and effectiveness of nature reserves).

Instructor(s): B. Patterson (odd years, lab). L., Heaney (even years, discussion) Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence and a course in either ecology, evolution, or earth history; or consent of instructor

Equivalent Course(s): EVOL 45500, GEOG 25500, ENST 25500, BIOS 23406

# GEOG 35900. Introduction to Location Analysis. 100 Units.

Understanding the location of business activities - agricultural, industrial, retail, and knowledge-based - has long been a focus for economic geographers, regional scientists, and urban planners. This course traces the key theories and conceptual models that have been developed over time to explain why economic activities tend to locate where they do. To introduce and explain these theories, this course covers several foundational concepts in economic geography and urban planning, such as: bid-rent theory, locational triangulation, various models of urban structure and growth, urban market areas, transportation, economic restructuring, and the "back-to-the-city" movement. This course incorporates several GIS exercises to teach students the basic principles of location optimization and to help illuminate the foundational theoretical principles of economic geography.

Instructor(s): Kevin Credit Terms Offered: Autumn. Offered 2020-21 Equivalent Course(s): ENST 25910, GEOG 25900

# GEOG 36005. Seminar in City Planning. 100 Units.

This is a graduate seminar devoted to the topic of city planning history. Through visual and textual analysis, we will explore the history of physical plans, drawing from all time periods and cultures. Students will have the opportunity to contrast competing theories of good city-making, relating cultural and temporal variations to social, political, cultural and economic forces. Students will also explore the question of plan implementation and whether plans have had any tangible effect on urban pattern and form.

Instructor(s): E. Talen Terms Offered: Autumn

Equivalent Course(s): SOSC 36005, PPHA 37230

# GEOG 36100. Roots of the Modern American City. 100 Units.

This course traces the economic, social, and physical development of the city in North America from pre-European times to the mid-twentieth century. We emphasize evolving regional urban systems, the changing spatial organization of people and land use in urban areas, and the developing distinctiveness of American urban landscapes. All-day Illinois field trip required. This course is part of the College Course Cluster, Urban Design.

Instructor(s): M. Conzen Terms Offered: Autumn

Note(s): This course offered in odd years.

Equivalent Course(s): HIST 38900, HIST 28900, ENST 26100, GEOG 26100

# GEOG 36510. Urban Analytics. 100 Units.

Urban analytics is a new field emerging at the intersection of urban planning practice and data science. While quantitative analytics have been used to study cities for some time, several new trends have begun to coalesce in the way that urban data is collected, analyzed, and used to make decisions: 1) increased velocity, volume, and variety in "big", spatially-referenced open source datasets generated by cities, 2) the development of easily-implementable machine learning, spatial analysis, and visualization techniques to analyze these data, and 3) cities' increasing use of new data, new technological, and ewe approaches to decision-making and planning (e.g., "Smart Cities"). The rise of this technological-quantitative framework has also raised concerns over public participation, representation, data transparency, "crowd-sourcing", and equity. In this course, we will cover contemporary urban planning issues (such as transportation planning, economic development, and land use planning) and theory. We will also investigate several cutting-edge urban analytic methodological tools, applied to questions of relevance in planning practice using "big" open source datasets. Instructor(s): Kevin Credit Terms Offered: Spring. Offered 2020-21

Equivalent Course(s): GEOG 26510

# GEOG 38000. GIScience Practicum. 100 Units.

This applied course in geographic information science builds upon and refines knowledge and geocomputational expertise gained in the GIScience sequence. Students will develop amultifaceted GIS project incorporating spatial thinking in design, infrastructure, and implementation. Projects could include the development of a web application, dynamic dashboard, interactive storytelling map, infographic-driven policy brief, or research article and are encouraged to link additional disciplines like health, sociology, economics, or political science.

Instructor(s): Kevin Credit Terms Offered: Spring. Offered 2020-21 Prerequisite(s): GEOG 38202; GEOG 38402

Equivalent Course(s): GEOG 28000

# GEOG 38202. Geographic Information Science I. 100 Units.

This course introduces students to a wide range of geospatial technologies and techniques in order to explain the basic theory and application of geographic information systems (GIS). To do this, students will use open source or free software such as QGIS and Google Earth Pro to complete GIS lab exercises that cover a range of topics, including an introduction to different types of geospatial data, geographic measurement, GIS, principles of cartography, remote sensing, basic GIS mapping and spatial analysis techniques, remote sensing, and specific geospatial applications such as 3D modeling and geodesign. By providing a general overview of geospatial technologies, this course provides students with a broad foundational knowledge of the field of GIScience that prepares them for more specialized concepts and applications covered in future GIS courses. Instructor(s): Kevin Credit Terms Offered: Autumn. Offered 2020-21

Equivalent Course(s): GEOG 28202

# GEOG 38402. Geographic Information Science II. 100 Units.

This course investigates the theory and practice of infrastructure and computational approaches in spatial analysis and GIScience. Geocomputation is introduced as a multidisciplinary systems paradigm necessary for solving complex spatial problems and facilitating new understandings. Students will learn about the elements of spatial algorithms and data structures, geospatial topologies, spatial data queries, and the basics of geodatabase architecture and design. Instructor(s): Marynia Kolak Terms Offered: Winter. Offered 2020-21

Prerequisite(s): GEOG 28202 /GEOG 38202. Students must receive a grade of C or higher in GEOG 28202/GEOG 38202 in order to register for this course.

Equivalent Course(s): ARCH 28402, GEOG 28402

# GEOG 38602. Geographic Information Science III. 100 Units.

This advanced course extends and connects both foundational and functional GIScience concepts. Students will be introduced to advanced programming and scripting languages necessary for spatial analysis and GIScience applications. Additional topics include customization, enterprise GIS, web GIS, and advanced visualization and analytic techniques. Instructor(s): M. Kolak Terms Offered: Spring, Offered 2020-21

Prerequisite(s): GEOG 38202 and GEOG 38402. Students must receive a grade of C or higher in GEOG 28402/GEOG 38402 in order to register for this course.

Equivalent Course(s): ARCH 28602, GEOG 28602

# GEOG 38700. Readings in Spatial Analysis. 100 Units.

This independent reading option is an opportunity to explore special topics in the exploration, visualization and statistical modeling of geospatial data.

Instructor(s): K. Credit and M. Kolak Terms Offered: Autumn Spring Winter. Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grading.

Note(s): By permission of instructor only.

Equivalent Course(s): GEOG 28700, ENST 28800

# GEOG 38702. Introduction to GIS and Spatial Analysis. 100 Units.

This course provides an introduction and overview of how spatial thinking is translated into specific methods to handle geographic information and the statistical analysis of such information. This is not a course to learn a specific GIS software program, but the goal is to learn how to think about spatial aspects of research questions, as they pertain to how the data are collected, organized and transformed, and how these spatial aspects affect statistical methods. The focus is on research questions relevant in the social sciences, which inspires the selection of the particular methods that are covered. Examples include spatial data integration (spatial join), transformations between different spatial scales (overlay), the computation of "spatial" variables (distance, buffer, shortest path), geovisualization, visual analytics, and the assessment of spatial autocorrelation (the lack of independence among spatial variables). The methods will be illustrated by means of open source software such as QGIS and R.

Instructor(s): M. Kolak Terms Offered: Spring. Offered 2020-21

Equivalent Course(s): SOCI 30283, ENST 28702, GEOG 28702, SOCI 20283, ARCH 28702

# GEOG 38800. History of Cartography. 100 Units.

This course offers a grand overview of the key developments in mapmaking throughout history worldwide, from pre-literate cartography to the modern interactive digital environment. It looks at the producers, their audience, the technologies and artistic systems used, and the human and global contexts in which they developed. The course also draws on the extensive map collections of Regenstein Library.

Instructor(s): Staff Terms Offered: Spring

Equivalent Course(s): GEOG 28800

# GEOG 38900. Readings in Urban Planning and Design. 100 Units.

This independent reading option is an opportunity to explore contemporary debates and theoretical arguments involved in the planning and design of cities.

Instructor(s): E.Talen Terms Offered: Autumn Spring Winter. Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grading.

Note(s): By permission of instructor only.

Equivalent Course(s): GEOG 28900, ENST 28980

# GEOG 40217. Spatial Regression Analysis. 100 Units.

This course covers statistical and econometric methods specifically geared to the problems of spatial dependence and spatial heterogeneity in cross-sectional data. The main objective of the course is to gain insight into the scope of spatial regression methods, to be able to apply them in an empirical setting, and to properly interpret the results of spatial regression analysis. While the focus is on spatial aspects, the types of methods covered have general validity in statistical practice. The course covers the specification of spatial regression models in order to incorporate spatial dependence and spatial heterogeneity, as well as different estimation methods and specification tests to detect the presence of spatial autoorrelation and spatial heterogeneity. Special attention is paid to the application to spatial models of generic statistical paradigms, such as Maximum Likelihood, Generalized Methods of Moments and the Bayesian perspective. An important aspect of the course is the application of open source software tools such as R, GeoDa and PySal to solve empirical problems.

Instructor(s): P. Amaral Terms Offered: Spring

Equivalent Course(s): MACS 55000, SOCI 40217

# GEOG 42400. Urban Landscape As Social Text. 100 Units.

The seminar explores conceptually how urban landscapes are formed (literally) and reciprocally how they inform social perceptions of community settings (figuratively). This is done through an initial program of reading and discussion, as well as pursuit of individual student projects, discussed as they progress, leading to a final research paper. The course serves students searching for and defining possible thesis and dissertation topics, as well as those interested in exploring an intellectual curiosity for its own sake. - CONZEN Fall Quarter

Instructor(s): M. Conzen Terms Offered: Autumn

Prerequisite(s): Advanced standing and consent of instructor.

Equivalent Course(s): SOCI 30303

# GEOG 49000. Reading/Research: Geographic Information Sciences. 100 Units.

Independent study for graduate students interested in Geographic Information Sciences (GIS). Students and instructors can arrange a Reading/Research course when the material being studied goes beyond the scope of a particular course, when students are working on material not covered in an existing course, or when students would like to receive academic credit for independent research. Subject, course of study, and requirements must be arranged with the instructor. Instructor(s): Staff Terms Offered: Autumn Spring Winter

Prerequisite(s): Consent of Instructor

# GEOG 51500. Urban Geography. 100 Units.

Study of a selected research topic in urban geography, leading to a final paper. Consent of instructor required. - CONZEN, TALEN, BARLOW

Instructor(s): M. Conzen, E. Talen. Terms Offered: Autumn,Spring,Winter Note(s): Consent of instructor.

# GEOG 51800. Rsch: Historical Geography. 100 Units.

This course is intended for individual study of selected problems in historical geography, with periodic meetings with the instructor to discuss progress, leading to a final research paper. Instructor(s): M. Conzen Terms Offered: Autumn,Spring,Winter Prerequisite(s): Consent of instructor

# GEOG 51900. Rsch: Historical Geography of the U.S. and Canada. 100 Units.

This course is intended for individual study of selected problems in the historical geography of the United States and Canada, with periodic meetings with the instructor to discuss progress, leading to a final research paper. Instructor(s): M. Conzen Terms Offered: Autumn,Spring,Winter Prerequisite(s): Consent of instructor

GEOG 52500. Rsch: American Urbanization. 100 Units.

This course is intended for individual study of selected problems in American urbanization, with periodic meetings with the instructor to discuss progress, leading to a final research paper. Instructor(s): M. Conzen, E. Talen Terms Offered: Autumn,Spring,Winter

Prerequisite(s): Consent of instructor

# GEOG 59800. Rsch: Topics in Geography. 100 Units.

This course is intended for individual study of selected problems in geography, with periodic meetings with the instructor to discuss progress, leading to a final research paper.

Instructor(s): M. Conzen, L. Anselin, E. Talen. Terms Offered: Autumn Spring Winter Prerequisite(s): Consent of instructor



# Department of History

Department Website: http://history.uchicago.edu Chair

Emilio H. Kourí

Professors

- Clifford Ando, Classics
- Leora Auslander
- John W. Boyer
- Mark P. Bradley
- Alain Bresson, Classics
- Susan Burns
- Dipesh Chakrabarty
- Paul Cheney
- Bruce Cumings
- Brodwyn Fischer
- Cornell Fleischer, Near Eastern Languages and Civilizations
- Ramón Gutiérrez
- Jonathan Hall
- Adrian D.S. Johns
- James Ketelaar
- Emilio H. Kourí
- Jonathan Levy
- David Nirenberg, Committee on Social Thought
- Steven Pincus
- Kenneth Pomeranz
- Robert J. Richards
- Mauricio Tenorio
- John E. Woods
- Tara Zahra

Associate Professors

- Fredrik Albritton Jonsson
- Guy S. Alitto
- Dain Borges
- Matthew Briones
- Jane Dailey
- Jacob Eyferth, East Asian Languages and Civilizations
- Rachel Fulton Brown
- Eleanor Gilburd
- Adam Green
- Faith Hillis
- Jonathan Lyon
- Emily Lynn Osborn
- Ada Palmer
- Richard Payne
- Johanna Ransmeier
- Michael Rossi
- James Sparrow
- Amy Dru Stanley

Assistant Professors

- Margaret M. Andrews
- Kathleen Belew
- Alice Goff
- Destin Jenkins
- Matthew Kruer

Associate Faculty

- Muzaffar Alam, South Asian Languages and Civilizations
- Michael Allen, Classics
- Fred Donner, Near Eastern Languages and Civilizations
- James Grossman, Executive Director of the American Historical Association
- R.H. Helmholz, Law School
- Dennis Hutchinson, Master New Collegiate Division
- Alison LaCroix, Law School
- Rochona Majumdar, South Asian Languages and Civilizations
- Paul Mendes Flohr, Divinity School
- Willemien Otten, Divinity School
- John F. Padgett, Political Science
- A. Holly Shissler, Near Eastern Languages and Civilizations

Emeritus Faculty

- Ralph A. Austen
- Kathleen Neils Conzen
- Edward Cook
- Prasenjit Duara
- Constantin Fasolt
- Sheila Fitzpatrick
- Michael Geyer
- Jan Ellen Goldstein
- Hanna Holborn Gray
- Harry Harootunian
- Neil Harris
- James Hevia
- Thomas Holt
- Ronald B. Inden
- Walter E. Kaegi
- Julius Kirshner
- Tetsuo Najita
- Julie Saville
- William Sewell
- Christine Stansell
- Ronald Suny
- Noel Swedlow
- Bernard Wasserstein

From its 1892 establishment as one of the founding departments of the University of Chicago, the History Department has fostered programs leading to the Ph.D. degree in a broad range of fields. Theoretically sophisticated comparative and interdisciplinary approaches are a hallmark of our program. Along with graduate fields organized by traditional regional, national, and chronological boundaries, the Department offers a comprehensive range of interdisciplinary, theoretical, and comparative fields of study.

The History Department's graduate students are broadly distributed by field and backgrounds. Faculty members work in close concert with students in the small graduate seminars, colloquia, and tutorials that form the core of advanced training at Chicago. It is here, in intense interaction with faculty and fellow students, that individual interests and the professional skills of the historian are honed. As in any history program, a student is expected to learn to read critically, to search out and analyze primary materials with skill, and to write with rigor. At Chicago, we also expect that students will demonstrate, through their own creativity, a significant advancement in the field itself.

#### 592 Department of History

Students are strongly encouraged to take courses outside of History and to compose one of their three oral fields in a comparative or theoretical discipline. There are extensive opportunities to develop ancillary fields with faculty in other social science and humanities programs, and in the University's professional schools. Students and faculty have strong connections to The University of Chicago area studies centers and interdisciplinary centers such as the Center for East European and Russian/Eurasian Studies, Center for East Asian Studies, Center for Jewish Studies, Center for Latin American Studies, France Chicago Center, Nicholson Center for British Studies, Center for Human Rights, Center for the Study of Gender and Sexuality and Center for the Study of Race, Politics and Culture. International centers offer homes away from campus for students conducting research in Beijing, Delhi, and Paris.

Central to our program are interdisciplinary workshops and special conferences that bring together students and faculty from throughout the University for intellectual exchange. Some recent workshops involving Department members include African Studies; Early Modern and Mediterranean Worlds; East Asia: Politics, Society and Economy; East Asia: Trans-Regional Histories; Gender and Sexuality Studies; History and Theory of Capitalism; History, Philosophy and Sociology of Science; Interdisciplinary Approaches to Modern France; Latin American and the Caribbean; Medieval Studies; Medicine and Its Objects; Reproduction of Race and Racial Ideologies; Transnational Approaches to Modern Europe; and US History. Workshops ensure dissertation writing students a supportive intellectual community within which both students and faculty are able to present and comment upon research in progress.

For more detailed information on History Department faculty and the graduate program, please visit the Department's website at http://history.uchicago.edu/.

# Admission

Requirements for admission are:

- 1. The degree of Bachelor of Arts or its equivalent
- 2. A distinguished undergraduate record
- High competence in foreign language

Four parts of the application are critically important: the student's academic record, letters of recommendation submitted by persons able to describe the student's achievements and promise, a significant example of the student's work, (bachelor's essay, master's thesis, research or course paper) and, finally, the student's statement of purpose, which describes the intellectual issues and historical subjects to be explored at the University of Chicago. Although many graduate students change their focus in the course of their studies, it is helpful to have the clearest possible idea of applicants' interests and any research experience to date.

In addition, applicants are required to submit Graduate Record Examination (GRE) aptitude scores that are not more than five years old (the History subject test is not required). It is advisable to take the GRE no later than October so that scores will arrive on time. International applicants must meet English language requirements set by the school. The requirements can be met through a waiver, the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

#### Information on How to Apply

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: https://apply-ssd.uchicago.edu/apply/

Questions pertaining to admissions and aid should be directed to s (admissions@ssd.uchicago.edu)sdadmissions@uchicago.edu (http://collegecatalog.uchicago.edu/graduate/departmentofhistory/ssd-admissions@uchicago.edu) or (773) 702-8415. The documents needed for the application can be uploaded through the online application.

# Program for the First and Second Year

Students register in coursework for the first year and complete a major research paper. These courses are taken for letter grades. Students receive the master's degree upon completing the first-year curriculum.

Students are also required to take a foreign language reading examination during their first term. Each field will specify the language(s) to be used and the degree of proficiency required. The fields will also determine whether students have met the requisite standards.

Most students register in coursework and complete a second research paper in their second year. Students with previous masters degrees may petition to waive coursework or writing requirements in the second year.

#### Field Examination and Proposal

The Ph.D. field examination is taken after completion of coursework. Students are examined in three Ph.D. fields in a two-hour oral examination. The student presents the dissertation proposal at a hearing, and it must be approved by the dissertation committee. The student is then admitted to candidacy for the doctoral degree after the hearing and all other requirements are complete.

# Work On The Dissertation

Following approval of the dissertation proposal and subsequent admission to candidacy for the Ph.D. degree, students are expected to devote their time to dissertation research. Formal defense of the completed dissertation, written with the guidance of a three or four member dissertation committee, concludes the degree requirements.

#### Archival Research Fellowships

The Freehling, Kunstadter, and Sinkler families and friends have made funds available for summer research fellowships of up to \$2,000 to support travel to archival collections. Two Eric Cochrane Traveling Fellowships of \$3,000 each are awarded annually to assist graduate students in Western European History in making a summer research trip to Europe. The John Hope Franklin Fellowship was created to award students working on African American or Southern U.S. history conduct summer archival research. Other fellowships may be available each year. Awards of up to \$300 for travel to present papers at scholarly conferences are available.

# **Teaching Opportunities**

Teaching is required for students in the Ph.D. program. Students serve as assistants and lecturers in introductory History courses, Social Sciences and Humanities core sequences, the College writing program, and various civilizations sequences. The History Department's von Holst Prize Lectureships permit three students to design undergraduate courses centered on their dissertation research.

# History Courses

# HIST 30312. Imperialism before the Age of Empires? 100 Units.

This course offers a critical analysis of the use of concepts such as empire and imperialism in the historiography of ancient Mesopotamia to address political formations that developed (and vanished) from the Early to Late Bronze Ages (mid-3rd to late-2nd millennium BCE). Drawing from theoretical studies on imperialism and the imperial constructions that developed in the Iron Age and beyond (starting with the Neo-Assyrian and Neo-Babylonian empires), this seminar will explore the nature of power, control, and resource management in these early formations, and how they qualify (or not) as imperial policies. Students will address a substantial part of Mesopotamian history (from the Sargonic down to the Middle Assyrian and Babylonian periods) and study in depth some key historiographical issues for the history of Early Antiquity. Primary documents will be read in translation and the course has no ancient language requirements. However, readings of secondary literature in common academic languages (especially French and German) are to be expected. This course fulfills the requirements of a survey course in Mesopotamian civilization as defined by the Ancient PhD programs in NELC and MA program in the CMES.

Instructor(s): Hervé Reculeau Terms Offered: Winter

Equivalent Course(s): NEHC 20737, NEHC 30737, HIST 20312

# HIST 30404. Troy and Its Legacy. 100 Units.

This course will explore the Trojan War through the archaeology, art, and mythology of the Greeks and Romans, as well as through the popular imaginings of it in later cultures. The first half will focus on the actual events of the 'Trojan War' at the end of the second millennium BCE. We will study the site of Troy, the cities of the opposing Greeks, and the evidence for contact, cooperation, and conflict between the Greeks and Trojans. Students will be introduced to the history of archaeology and the development of archaeological fieldwork. The second half will trace how the narrative and mythology of Homer's Iliad and the Trojan War were adapted and used by later civilizations, from classical Greece to twenty-first-century America, to justify their rises to political and cultural hegemony in the Mediterranean and the West, respectively. Instructor(s): M. Andrews Terms Offered: Spring

Equivalent Course(s): CLAS 30404, CLCV 20404, HIST 20404, ANTH 26120, ARCH 20404, ANTH 36120

#### HIST 30507. The Idea of Freedom in Antiquity. 100 Units.

Freedom may be the greatest of American values. But it also has a long history, a dizzying variety of meanings, and a huge literature. This course will be an introduction to critical thinking on freedom (primarily political freedom) with an emphasis on Greco-Roman texts. The first half of the class will focus on Greek authors, including Herodotus, Euripides, and Aristotle. The second half will focus on Roman authors, from Cicero to Livy to Tacitus. The ancient texts will be supplemented by modern literature on freedom, such as John Stuart Mill and Isaiah Berlin.

Instructor(s): A. Horne Terms Offered: Autumn

Equivalent Course(s): LLSO 24319, CLAS 34319, HIST 20507, CLCV 24319

#### HIST 32611. Paris from 'Les Misérables' to the Liberation, c. 1830-1950. 100 Units.

Starting with the grim and dysfunctional city described in Victor Hugo's 'Les Misérables,' the course will examine the history of Paris over the period in which it became viewed as the city par excellence of urban modernity through to the testing times of Nazi occupation and then liberation (c. 1830-1950). As well as focussing on architecture and the built environment, we will examine the political, social, and especially cultural history of the city. A particular feature of the course will be representations of the city-literary (Victor Hugo, Baudelaire, Zola, etc.) and artistic (impressionism and postimpressionism, cubism, surrealism). We will also examine the city's own view of itself through the prism of successive world fairs (expositions universelles).

Instructor(s): C. Jones Terms Offered: Spring

Prerequisite(s): Students taking FREN 22620/32620 must read texts in French.

Equivalent Course(s): FREN 22620, ARCH 22611, ENST 22611, FREN 32620, HIST 22611

# HIST 34612. Chinese Frontier History, circa 1600-Present. 100 Units.

A study of frontier regions, migration, and border policies in Qing (1644-1912) and twentieth-century China, focusing on selected case studies. Cases will include both actual border regions (where the Qing/China was adjacent to some other polity it recognized), ethnically diverse internal frontiers, and places where migrants moved into previously uninhabited regions (e.g., high mountains). Topics include the political economy and geopolitics of migration and frontier regions, the formation of ethnic and national identities in frontier contexts, borderland society (e.g., marriage, social stratification, and social mobility), and the environmental effects of migration.

Instructor(s): K. Pomeranz Terms Offered: Autumn

Note(s): Friday discussion section registration is required, but only if you plan to attend. Discussions are optional and attendance is not required to receive course credit. Sect 1 (1.30) is for ugrads and sect 2 (2.30) is for grads. Equivalent Course(s): HIST 24612, EALC 24712, EALC 34712

# HIST 35318. Wonder, Wonders, and Knowing. 100 Units.

In wonder is the beginning of philosophy,' wrote Aristotle; Descartes also thought that those deficient in wonder were also deficient in knowledge. But the relationship between wonder and inquiry has always been an ambivalent one: too much wonder stupefies rather than stimulates investigation, according to Descartes; Aristotle explicitly excluded wonders as objects of inquiry from natural philosophy. Since the sixteenth century, scientists and scholars have both cultivated and repudiated the passion of wonder; ON the one hand, marvels (or even just anomalies) threaten to subvert the human and natural orders; on the other, the wonder they ignite fuels inquiry into their causes. Wonder is also a passion tinged with the numinous, and miracles have long stood for the inexplicable in religious contexts. This seminar will explore the long, vexed relationship between wonder, knowledge, and belief in the history of philosophy, science, and religion. Instructor(s): Lorraine Daston Terms Offered: Spring. Course to be taught Spring 2020

Prerequisite(s): Reading knowledge of at least one language besides English, some background in intellectual history. Consent is required for both grads and undergrads. This course will be taught the first five weeks of the quarter. Equivalent Course(s): PHIL 30926, KNOW 30926, SCTH 30926, CHSS 30936

# HIST 35621. Islamicate Civilization I: 600-950. 100 Units.

This course covers the rise and spread of Islam, the Islamic empire under the Umayyad and early Abbasid caliphs, and the emergence of regional Islamic states from Afghanistan and eastern Iran to North Africa and Spain. The main focus will be on political, economic and social history.

Instructor(s): Ahmed El Shamsy Terms Offered: Autumn

Note(s): The Islamicate Civilization sequence does not fulfill the General Ed requirements

Equivalent Course(s): NEHC 20201, MDVL 20201, NEHC 30201, ISLM 30201, RLST 20201, HIST 15611

# HIST 35622. Islamicate Civilization II: 950-1750. 100 Units.

This course, a continuation of Islamicate Civilization I, surveys intellectual, cultural, religious and political developments in the Islamic world from Andalusia to the South Asian sub-continent during the periods from ca. 950 to 1750. We trace the arrival and incorporation of the Steppe Peoples (Turks and Mongols) into the central Islamic lands; the splintering of the Abbasid Caliphate and the impact on political theory; the flowering of literature of Arabic, Turkic and Persian expression; the evolution of religious and legal scholarship and devotional life; transformations in the intellectual and philosophical traditions; the emergence of Shi'i states (Buyids and Fatimids); the Crusades and Mongol conquests; the Mamluks and Timurids, and the 'gunpowder empires' of the Ottomans, Safavids, and Moghuls; the dynamics of gender and class relations; etc. This class partially fulfills the requirement for MA students in CMES, as well as for NELC majors and PhD students. Instructor(s): Franklin Lewis Terms Offered: Winter

Prerequisite(s): Islamicate Civilization I (NEHC 20201) or Islamic Thought & Literature-1 (NEHC 20601), or the equivalent Note(s): The Islamicate Civilization sequence does not fulfill the General Ed requirements

Equivalent Course(s): MDVL 20202, NEHC 20202, ISLM 30202, RLST 20202, HIST 15612, NEHC 30202

# HIST 35623. Islamicate Civilization III: 1750-Present. 100 Units.

This course covers the period from ca. 1750 to the present, focusing on Western military, economic, and ideological encroachment; the impact of such ideas as nationalism and liberalism; efforts at reform in the Islamic states; the emergence of the 'modern' Middle East after World War I; the struggle for liberation from Western colonial and imperial control; the Middle Eastern states in the cold war era; and local and regional conflicts.

Instructor(s): Holly Shissler Terms Offered: Spring

Prerequisite(s): Islamicate Civilization II (NEHC 20202) or Islamic Thought & Literature-2 (NEHC 20602), or the equivalent

Note(s): The Islamicate Civilization sequence does not fulfill the General Ed requirements Equivalent Course(s): NEHC 20203, RLST 20203, ISLM 30203, HIST 15613, NEHC 30203

# HIST 35706. The History of Muslim Histories. 100 Units.

This course surveys Muslim history-writing in Arabic from its beginnings to the nineteenth century. Through reading the work of historians such as al-Baladhuri, al-Tabari, Miskawayh, Ibn 'Asakir, Ibn Khaldun, and al-Jabarti, we investigate different genres of historical writing and examine the various methodologies employed by Muslim historians. Instructor(s): Ahmed El Shamsy Terms Offered: Winter

Prerequisite(s): 3 years of Arabic or the equivalent

Equivalent Course(s): NEHC 30120, ISLM 31120

# HIST 36317. Development and Environment in Latin America. 100 Units.

This course will consider the relationship between development and the environment in Latin America and the Caribbean. We will consider the social, political, and economic effects of natural resource extraction, the quest to improve places and peoples, and attendant ecological transformations, from the onset of European colonialism in the fifteenth century, to stateand private-led improvement policies in the twentieth. Some questions we will consider are: How have policies affected the sustainability of land use in the last five centuries? In what ways has the modern impetus for development, beginning in the nineteenth century and reaching its current intensity in the mid-twentieth, shifted ideas and practices of sustainability in both environmental and social terms? And, more broadly, to what extent does the notion of development help us explain the historical relationship between humans and the environment?

Instructor(s): Diana Schwartz Francisco Terms Offered: Winter

Equivalent Course(s): HIPS 26382, LACS 26382, ANTH 23094, GEOG 26382, HIST 26317, LACS 36382, ENST 26382

# HIST 36320. Latin American Historiography, 19th-21st Century. 100 Units.

Review of recent trends in the history of the regions. Weekly reviews. Instructor(s): M. Tenorio Terms Offered: Autumn Equivalence Course(s): UST 26220, LACS 26222

Equivalent Course(s): HIST 26320, LACS 36322, LACS 26322

# HIST 36511. Cities from Scratch: The History of Urban Latin America. 100 Units.

Latin America is one of the world's most urbanized regions, and its urban heritage long predates European conquest. And yet the region's cities are most often understood through the lens of North Atlantic visions of urbanity, many of which fit poorly with Latin America's historical trajectory, and most of which have significantly distorted both Latin American urbanism and our understandings of it. This course takes this paradox as the starting point for an interdisciplinary exploration of the history of Latin American cities in the nineteenth and twentieth centuries, focusing especially on issues of social inequality, informality, urban governance, race, violence, rights to the city, and urban cultural expression. Readings will be interdisciplinary, including anthropology, sociology, history, fiction, film, photography, and primary historical texts. Instructor(s): B. Fischer Terms Offered: Winter

Prerequisite(s): Some knowledge of Latin America or urban studies helpful.

Equivalent Course(s): LACS 36510, LACS 26510, ENST 26511, ARCH 26511, HIST 26511

# HIST 36703. Buddhism in Early Theravada Literature. 100 Units.

A critical examination of important canonical (Buddhavacana--attributed to the Buddha) and non-canonical Pali literature central to the religious 'imaginaire' of Theravada Buddhists in Sri Lanka and Southeast Asia. Literary texts include Vinayapitaka (Book of Monastic Discipline), Dhammapada (didactic verses attributed to the Buddha), Mahaparinibbana Sutta (sermon recounting the final 3 months of the Buddha's career), Vessantara Jataka (epic narrative of the Buddha's next-to-last rebirth as a king), the Edicts of Asoka (proclamations of the 3rd c. BCE Indian emperor), Anagatavamsa Desana (prophecy of the future Buddha Metteyya), Mahavamsa (the monastic 'Great Chronicle' recounting the history of Buddhism) and royal inscriptions and paintings from the late-medieval period.

Instructor(s): John Holt Terms Offered: Autumn

Equivalent Course(s): HREL 36260, SALC 26260, RLST 26260, SALC 36260

# HIST 36704. Buddha Then and Now: Transformations from Amaravati to Anuradhapura. 100 Units.

The Buddhist sculptures in Amaravati are arguably the earliest to influence the early Buddhist art of the other parts of the sub-continent as well as south and southeast Asia. The course begins with the discussion of the context in which the Buddha images were made in Amaravati and the factors including Buddhist doctrinal developments that contributed to the spread of these images to various parts of Sri Lanka. Then it traces the course and function of Buddhist iconography in Sri Lanka until into the 21st century to assess the role of geopolitical factors. The positionality and portrayals of the images of Buddha are also considered and analyzed. The course traces the trajectories that transformed the image of the Buddha from a symbol of peace to jingoist assertiveness. Through the study of the images of the Buddha, the aim is to comprehend the ways Buddhism has changed over centuries from an inclusive posture which helped it sustain and spread to different parts of the world only later to become exclusionary.

Instructor(s): Sree Padma Holt Terms Offered: Winter

Equivalent Course(s): SALC 37440, HREL 37440, RLVC 37440, RLST 27440, ARTH 27440, SALC 27440, ARTH 37440

# HIST 37709. Soul and the Black Seventies. 100 Units.

This course considers in what ways soul as cultural genre and style shaped, and was shaped by, the political, social, structural, cultural, and ethical shifts and conditions associated with the 1970s. It will focus on popular music as both symbolic field and system of production, while also taking up other forms of expression-literary, intellectual, institutional, activist-in order to propose an alternate, and compelling, archive for this era. The course intends to deepen understanding of the feel and meaning of soul by relating it to consequential legacies of the 1970s: urban identity and crisis, emerging limitations of racial reformism, the deepening class stratification of Black life, and the radical disruption of social norms through feminism, in particular Black feminism.

Instructor(s): A. Green Terms Offered: Spring

Prerequisite(s): Graduate students by consent of instructor.

Equivalent Course(s): CRES 27709, GNSE 27709, CRES 37709, MUSI 37709, MUSI 27709, HIST 27709, GNSE 37709

# HIST 39319. Human Rights: Philosophical Foundations. 100 Units.

Human rights are claims of justice that hold merely in virtue of our shared humanity. In this course we will explore philosophical theories of this elementary and crucial form of justice. Among topics to be considered are the role that dignity and humanity play in grounding such rights, their relation to political and economic institutions, and the distinction between duties of justice and claims of charity or humanitarian aid. Finally we will consider the application of such theories to concrete, problematic and pressing problems, such as global poverty, torture and genocide. (A) (I)

Instructor(s): B. Laurence Terms Offered: Autumn

Equivalent Course(s): LLSO 21002, INRE 31602, PHIL 31002, MAPH 42002, HMRT 31002, HIST 29319, PHIL 21002, HMRT 21002

# HIST 39426. Lost Histories of the Left. 100 Units.

When most Americans think about 'the left,' Marxism, Soviet state socialism, or European social democracy spring to mind. This class will explore alternative-but now largely forgotten-blueprints for revolutionizing the political and social order that emerged in the nineteenth century. We will pay special attention to utopian socialism, early anticolonial movements, the Jewish Labor Bund, and anarchism. Examining the intellectual underpinnings of these movements, their influence on the modern world, and the factors that led to their demise, we will also consider what lessons they can teach to those committed to realizing a better future today.

Instructor(s): F. Hillis Terms Offered: Winter

Equivalent Course(s): REES 26080, HIST 29426, JWSC 29626, REES 36080

# HIST 39522. Europe's Intellectual Transformations, Renaissance through Enlightenment. 100 Units.

This course will consider the foundational transformations of Western thought from the end of the Middle Ages to the threshold of modernity. It will provide an overview of the three self-conscious and interlinked intellectual revolutions which reshaped early modern Europe: the Renaissance revival of antiquity, the 'new philosophy' of the seventeenth century, and the light and dark faces of the Enlightenment. It will treat scholasticism, humanism, the scientific revolution, Bacon, Descartes, Hobbes, Locke, Voltaire, Diderot, and Sade.

Instructor(s): A. Palmer Terms Offered: Autumn

Prerequisite(s): Students taking FREN 29322/39322 must read French texts in French.

Note(s): First-year students and non-History majors welcome.

Equivalent Course(s): FREN 29322, RLST 22605, FREN 39322, SIGN 26036, HCHR 39522, KNOW 39522, KNOW 29522, HIST 29522

# HIST 39528. Spatial History: Theory and Practice. 100 Units.

This course will take a spatial history approach; that is, we will explore the transformation of nineteenth-century cities by focusing on the material 'space' of the city.

Instructor(s): S. Burns Terms Offered: Autumn

Equivalent Course(s): EALC 39528

# HIST 42304. Patronage and the Production of Culture in Renaissance Italy and Her Neighbors. 100 Units.

The great works of literature, philosophy, art, architecture, music, and science which the word 'Renaissance' invokes were products of a complex system of patronage and hierarchy in which local, personal, and international politics were as essential to innovation as ideas and movements. This course examines how historians of early modern Europe can strive to access, understand, and describe the web of hierarchy and inequality that bound the creative minds of Renaissance Europe to wealthy patrons, poor apprentices, distant princes, friends and rivals, women and servants, and the many other agents, almost invisible in written sources, who were vital to the production and transformation of culture. Instructor(s): A. Palmer Terms Offered: Spring

Prerequisite(s): Upper-level undergraduates with consent of instructor; students taking course with the ITAL subject code must do readings in Italian.

Equivalent Course(s): KNOW 42304, ITAL 32304

# HIST 44001. Colloquium: Ending Communism. 100 Units.

This course focuses on the demise of one of the most enduring, ambitious, appealing, transformative, and destructive political ideologies. We will consider the collapse of communism as a religion, an aesthetic, and a way of life, an economic system and a material culture, a political structure and an international order. We will also discuss communism's afterlives in biographies and memoirs (including those of scholars). Topics include reforms and revolutions, political and cultural dissent, generations and languages, secrecy and publicity, travel and immobility, competing religions and rival ideologies, the Cold War and détentes, privileges and shortages, apartment blocks and palaces of culture, the Gorky Park, the Memento Park, and other Luna Parks. Our readings will range across Europe, focusing primarily on the Soviet Union and Eastern Europe in the last forty years of the twentieth century.

Instructor(s): E. Gilburd Terms Offered: Autumn

Prerequisite(s): Upper-level undergraduates with consent of instructor.

Equivalent Course(s): REES 44001

## HIST 45101. Agriculture: Ancient and Modern. 100 Units.

This course surveys the history of agriculture and agrarian societies from the dawn of the Neolithic to the age of genetic modification and anthropogenic warming. Topics to be discussed include the origins of agriculture, domestication, population dynamics, soil husbandry, foodways, land tenure, dietary transitions, industrial agriculture, the Green Revolution, and climate change. We will read texts by James Scott, Emmanuel le Roy Ladurie, Elinor Ostrom, Deborah Fitzgerald, and others.

Instructor(s): P. Cheney Terms Offered: Winter

Prerequisite(s): Upper-level undergraduates with consent of instructors Equivalent Course(s): CHSS 45101

# HIST 46401. History and Fiction. 100 Units.

We will explore the relations among historical analysis, historical narrative, and fiction, with an emphasis on the Americas. Instructor(s): D. Borges, M. Tenorio Terms Offered: Autumn

Prerequisite(s): Open to upper-level undergraduates with consent of instructors; students taking course with a Romance subject code must do readings and the final paper in French, Portuguese, or Spanish.

Equivalent Course(s): PORT 46402, LACS 44401, SPAN 46402, FREN 46402

# HIST 47002. Colloquium: Interracial America. 100 Units.

This course will examine the interaction between different racialized and ethnic groups in America (and beyond) from the eighteenth-century to our present moment. Conventional studies rely on a simplistic black-white paradigm of US race relations. This seminar aims to move beyond that dichotomy and searches for broader historical models, which include yellow, brown, red, and ethnic white. For example, how do we interpret recently excavated histories of Afro-Cherokee relations in antebellum America? What is a 'model minority,' and why did Asians inherit the mantle from Jews? What is a 'protest minority,' and why were Blacks and Jews labeled as such during the civil rights movement? How does race operate differently in an ostensible racial paradise like Hawaii? How do we understand race, nation, and decolonization in a global context, as evidenced by radical activism in California in the 1960s and '70s? We will critically interrogate the history of contact that exists between and among these diverse 'groups.' If conflicted, what factors have prevented meaningful alliances? If confluent, what goals have elicited cooperation? Instructor(s): M. Briones Terms Offered: Winter

Equivalent Course(s): CRES 37002, AMER 47002

#### HIST 47201. Colloquium: US Legal History. 100 Units.

This course focuses on the connections between law and society in modern America. It explores how legal doctrines and constitutional rules have defined individual rights and social relations in both the public and private spheres. It also examines political struggles that have transformed American law. Topics to be addressed include the meaning of rights; the regulation of property, work, race, and sexual relations; civil disobedience; and legal theory as cultural history. Readings include legal cases, judicial rulings, short stories, and legal and historical scholarship.

Instructor(s): A. Stanley Terms Offered: Autumn

Prerequisite(s): Upper-level undergraduates with consent of instructor

Equivalent Course(s): AMER 47201

# HIST 47703. Colloquium: US Immigration History to 1965. 100 Units.

America's current immigration debate lends new urgency to understanding the nation's earlier experiences of immigrationand immigrants' experiences of the nation-between the colonial period and the passage of the Immigration and Nationality Act of 1965. This graduate-level, US social history colloquium will explore the changing origins, processes, experiences, policies, and politics of American immigration within a globally comparative perspective. Weekly readings and discussion will encourage critical engagement with the historiography and with the sources and methods that have shaped changing interpretations; written assignments will include three brief review essays and a final paper in the form of a 'mock proposal' for a well-conceptualized research project on a significant issue within the history of American immigration.

Instructor(s): K. Conzen Terms Offered: Spring

Prerequisite(s): Upper-level undergraduates with consent

#### HIST 49200. Colloquium: Approaches to Atlantic Slavery Studies. 100 Units.

We are witnessing an outpouring of scholarship on Atlantic slavery even as some historians are increasingly critical of the archival method. This course uses select theoretical readings and recent monographs and articles to examine this conceptual and methodological debate. Topics to be examined include histories of women, gender, and sexuality; dispossession and resistance; urban and migration history; and interdisciplinary and speculative techniques.

Instructor(s): R. Johnson Terms Offered: Winter

Prerequisite(s): Open to upper-level undergraduates with consent of instructor Equivalent Course(s): GNSE 49201, LACS 49200, CRES 49200

HIST 50002. Collog: Africa in the Era of the Transatlantic Slave Trade. 100 Units.

This graduate course explores the history of the Atlantic world and the trade in enslaved human beings using a range of secondary and primary sources, from oral traditions to digital datasets to diaries and ship records. We will start by examining African social and political systems prior to European contact and then investigate the emergence of the trade in enslaved peoples as a major force of change across the oceanic basin. Themes of study include oral, archaeological, and textual sources of history; definitions and practices of enslavement; the dynamics of trade, gender, and warfare; and the making of the Atlantic world.

Instructor(s): E. Osborn Equivalent Course(s): GNSE 50002, CRES 50002

# HIST 50500. The Return of Migration: Mobility and the New Empiricism. 100 Units.

This seminar questions the prerogatives of disciplines in framing and explaining social change via mobility. Following earlier theories of diffusion to understand diachronic cultural change, and the subsequent contextual critiques that privilege historical contingencies and human agency, advances in identifying past human movement through techniques like ancient DNA genome testing have increasingly led to the revival of migration as a subject of focus and explanation. As growing interest in contemporary refugee and forced migration studies is showing, migration represents not just a wide-ranging practice of different types, but is a semantically charged and ambiguous term whose recent applications provide new opportunities to assess its interpretive advantages and limitations. Is the new empirical emphasis on migration re-racializing antiquity? What do we gain by studying concepts of diasporas, transnationalism, and border crossings in the premodern world? Why does migration matter? Divided into two parts, the course covers the conceptual and theoretical work in current literature on migration as well as applications to specific historical problems from ancient and modern Eurasia. Instructor(s): James Osborne and Catherine Kearns Terms Offered: Winter

Equivalent Course(s): CLAS 42720, CDIN 42720, NEHC 42720

# HIST 56705. Colloquium: Modern Korean History I. 100 Units.

By modern Korean history we mean Korea since its 'opening' in 1876. This term we will be reading a number of books written by University of Chicago PhDs, in other words, by people who went through the same regimen some of you are beginning. This is a two-quarter course, although it may also be taken just for the autumn quarter. Students only taking the course for the autumn quarter must submit a 25-page paper during exam week; otherwise all requirements are the same. In the first quarter we will read about one book per week, and the colloquium will be devoted to an assessment of the reading. Before each session one student will write a 3-4 page paper on the reading, which will begin our discussion. All students should complete the reading before each seminar, and may be called upon at any time to discuss the reading. Instructor(s): B. Cumings Terms Offered: Autumn

Prerequisite(s): Open to upper-level undergraduates with consent.

Note(s): History graduate students have the option to enroll in this colloquium in autumn quarter only, with a research paper due in exam week.

Equivalent Course(s): EALC 56705

# HIST 56706. Colloquium: Modern Korean History 2. 100 Units.

To the extent possible, research papers should be based in primary materials; ideally this means Korean, Japanese, or Chinese materials, but some students cannot use Korean or another East Asian language for research until they embark on dissertations. An abundance of English-language research materials are available on twentieth-century Korea: American, Korean, and Japanese official reports, the Foreign Relations of the United States series, newspapers, paper collections, microfilms, dissertations based in primary materials, etc.

Instructor(s): B. Cumings Terms Offered: Winter

Prerequisite(s): HIST 56705; upper-level undergraduates with consent of instructor.

Equivalent Course(s): EALC 56706

# HIST 58601. Colloquium: Iran and Central Asia I. 100 Units.

The first quarter will take the form of a colloquium on the sources for and the literature on the political, social, economic, technological, and cultural history of Western and Central Asia from approximately 1500 to 1750. Classroom presentations and a short paper are required.

Instructor(s): J. Woods Terms Offered: Autumn

Prerequisite(s): Open to upper-level ugrads with consent of instructor.

Note(s): The 20-21 focus will be the Mongol world empire.

Equivalent Course(s): NEHC 30943, CMES 58601

# HIST 58602. Colloquium: Iran and Central Asia II. 100 Units.

The second quarter will be devoted to the preparation of a major research paper. Instructor(s): J. Woods Terms Offered: Winter Prerequisite(s): HIST 58601; open to upper-level undergraduates with consent Note(s): The 20-21 focus will be the Mongol world empire. Equivalent Course(s); CMES 58602, NEHC 30944

# HIST 59000. Coll: Persian Historical Texts. 100 Units.

This course will focus on the study and utilization of narrative, normative, and archival sources in Persian. Texts of the major Iranian historians and biographers will be subjected to close reading and analysis. The scripts, protocols, and formula used by Irano-Islamic chancelleries will also be introduced and the form and content of published and unpublished archival documents will be transcribed and examined in their institutional context.

Instructor(s): J. Woods Terms Offered: Autumn

Prerequisite(s): Knowledge of Persian required; open to upper-level undergraduates with consent of instructor. Equivalent Course(s): CMES 30687, NEHC 30687

# HIST 59900. Colloquium: Histories of Inequality in Latin America. 100 Units.

This course is devoted to the issue of inequality in Latin America's history and historiography. We will consider the role that inequality has played in shaping Latin American societies; we will also explore the ways in which political and intellectual constructions of inequality have impacted the development of Latin American historiography. Throughout the course, we will pay particular attention to historical methodology: the ways in which historians formulate their questions, the interaction of theory and research, and the nature of historical research. Issues covered will include colonialism, slavery, citizenship, social movements, and the Latin American manifestations of global inequalities.

Instructor(s): B. Fischer Terms Offered: Spring

Equivalent Course(s): LACS 59900

# HIST 61802. Research Themes in South Asian Studies: Textual Transformations - From Manuscript to Print, 100 Units.

This graduate course offers an introduction to the theory and practice of book history and print culture studies, a relatively recent and vibrant field of inquiry within South Asian Studies. The course will explore some of the main theoretical approaches, themes, and methodologies of the history of the book in comparative perspective, and discuss the specific conditions and challenges facing scholars of South Asian book history. Topics include orality and literacy, technologies of scribal and print production, the sociology of texts, authorship and authority, the print 'revolution' and knowledge formation under British colonial rule, the legal existence of books, the economy of the book trade, popular print, readership and consumption. We will also engage with the text as material artifact and look at the changing contexts, techniques, and practices of book production in the transition from manuscript to print. Instructor(s): U. Stark

Equivalent Course(s): CMLT 40101, SALC 40100

# HIST 61901. Colloquium: Historical Texts of Hindu Nationalism. 100 Units.

This course will discuss and analyze some classic texts of Hindu nationalism, including those by Vivekananda, Savarkar, Golwalkar, and others.

Instructor(s): D. Chakrabarty and J. Pitts Terms Offered: Spring

Equivalent Course(s): PLSC 61901, SALC 61901

# HIST 62601. Colloquium: Readings in American History I, to 1865. 100 Units.

This course explores major topics and historiographical debates in American history, spanning from first contact of Native Americans and Europeans to the US Civil War. Topics will include indigenous encounters with European empires; the Atlantic slave trade and racial slavery; the crisis of the British empire and American Revolution; the US Constitution; religious revivalism and political radicalism; western expansion and settler colonialism; and the causes of disunion. Students will gain an expansive overview of the field in preparation for oral examinations in US history. Instructor(s): M. Kruer Terms Offered: Autumn

# HIST 62602. Colloquium: Readings in American History II, from 1865. 100 Units.

This course is a companion to Readings I and is designed to assist graduate students in their preparation for qualifying exams. It explores major problems and methods in the historiography of the United States since the Civil War. The central goals of the course are to provide a thorough immersion in the major historiographical developments in the field of modern US history; to cultivate students' ability to analyze important works of history and to synthesize patterns of scholarly intervention; and to help students develop their own analytical agenda and successfully articulate it in oral and written form. It combines readings in the 'classics,' including period-based debates, along with more recent topical concerns. Major interpretive themes knit together scholarly concerns under rubrics such as national and global capitalism; the environment; migration and urbanization; citizenship, the state, democratic politics, and its many discontents; and the ways in which all of these intersected with contested grassroots struggles over class, gender and sex, race and ethnicity, religion and ideology. Readings will also grapple with major events, periods, and patterns, including Reconstruction and its collapse, the Gilded Age and Progressive Era, WWI, the volatile interwar period, WWII, the Cold War, the Vietnam era, the age of Reagan, and the post-Cold War world.

Instructor(s): J. Sparrow Terms Offered: Winter

#### HIST 62606. Colloquium: Debates and Problems in Labor and Social History. 100 Units.

In this course, we trace the tortured path of historical scholarship on labor and social class over the last sixty years. We will both historicize our own discipline and also refine our own approaches to the questions raised in years of debate over theoretical issues such as working-class agency, class formation, and the nature of experience, language, and subjectivity. What is the relationship between the history of capitalism and the history of work and class? How should we understand the fraught intersections of work and class with each other, and with race, gender, colonization and decolonization, and state formation? This colloquium aims to prepare students who are interested for an exams field in the subject, although may it be taken by others as well.

Instructor(s): G. Winant Terms Offered: Spring

# HIST 62706. Colloquium: Readings in Post-Emancipation African American History. 100 Units.

This course will introduce student to key topics in African American history, concentrated in the United States after slavery. Key themes will include the material and social legacies of Reconstruction, intersectional approaches to resistance, identity, and struggle, the changing relationship of blackness to citizenship, racial capitalism in an increasingly urban America, and culture as both self-definition and means to assimilation.

Instructor(s): A. Green Terms Offered: Autumn

# HIST 63907. Colloquium: Whiteness and White Supremacy in US History and Culture. 100 Units.

This graduate colloquium explores the construction of whiteness in the United States from the colonial period to the present and the way whiteness and white supremacy have shaped American identity, culture, and politics.

Instructor(s): K. Belew

Prerequisite(s): Graduate students only by consent of instructor

# HIST 65501. Colloquium: Science and American Intellectual History. 100 Units.

The practice of intellectual history has famously been described as 'like nailing jelly to the wall.' In this course we will attempt this feat with particular reference to the place of science in American ideas. In addition to examining major trends in American thought since the nineteenth century, we will consider what the writing of ideas entails; where and how the disciplinary borders of history are drawn; and how ideas travel; and how to think about ideas, ideologies, concepts, and thoughts in conjunction with the people, places, institutions, environments, non-human organisms, and material things that form the substrate of historical narratives.

Instructor(s): M. Rossi

# HIST 66504. Colloquium: History and Anthropology of the Present. 100 Units.

This graduate colloquium will focus on readings in history and anthropology, addressing three major contemporary political and social issues from a historical or an anthropological perspective: migration, environmental crisis, and the rise of far-right authoritarian and populist regimes. The colloquium will consider the provocatively different perspectives on these issues in historical and anthropological scholarship.

Instructor(s): S. Gal and T.Zahra Terms Offered: Autumn

Equivalent Course(s): ANTH 54606

# HIST 67001. Colloquium: Comparative Empires. 100 Units.

This research colloquium introduces students to the burgeoning literature on empires on a global scale. The readings will include general accounts of empire as well as histories of particular empires and resistance to them. Students research and write a paper.

Instructor(s): S. Pincus & K. Pomeranz Terms Offered: Winter

# HIST 67002. Colloquium: The Emergence of Capitalism. 100 Units.

This colloquium investigates the emergence of capitalism in the world as a whole between the early sixteenth and the late eighteenth centuries. We discuss the political and cultural, as well as the economic, sources of capitalism and explore Marxist, neoclassical, and cultural approaches.

Instructor(s): J. Levy & W. Sewell Terms Offered: Winter

Equivalent Course(s): PLSC 67002, SCTH 67002

# HIST 67400. Colloquium: Settler Colonialism, History and Theory. 100 Units.

This colloquium investigates the phenomenon of settler colonialism, a specific form of empire in which immigrant settlers seek to replicate their home societies through the expropriation of indigenous land and elimination of its population. The recent surge of scholarly interest in settler colonialism has not only revolutionized the study of settler societies in multiple geographic fields, but also established a theoretical scaffold for transnational and global indigenous studies. Yet settler colonial theory has some powerful detractors, and a lively debate about the merits of its formulations and the consequences of its application. This course will explore this burgeoning field by engaging with the theoretical literature and case studies that deploy the theory in a variety of contexts across the world. Its core focus is early modern and modern North America, but texts will include settler-indigenous contexts ranging from Australia and New Zealand, Hawaii, Taiwan, South Asia, Latin America, and Palestine.

Instructor(s): M. Kruer

# HIST 67601. Broadening Horizons Graduate Colloquium. 100 Units.

This course will provide graduate students in History with the opportunity to explore forms of dissemination of historical knowledge beyond the journal article and the monograph. After several weeks spent reading recent interventions on the topic, students will work in groups of three or four on projects that will culminate in the production of a blog, website, exhibition, script for tour guides, prose for visitors' guides, catalog, curricular initiative, YouTube video, or short film (among other options). Students will also be expected to develop potential clients for their product. Technical assistance will be provided.

Instructor(s): L. Auslander

Note(s): Open to PhD students in the Divisions of the Social Sciences and Humanities and the Divinity School at any point in their residency.

# HIST 67603. Public History Practicum. 100 Units.

This practicum provides graduate students with an introduction to the field of public history as well as the opportunity to work with institutional clients to produce an exhibit, a podcast, or a website to their specifications. It is designed to be be valuable to graduate students planning to pursue academic careers, as well as those hoping to find a position in public history, journalism, or student services, among other fields. It will enhance your communication skills (writing, speaking, web design, and label and catalogue production) and give you first-hand experience with the challenges of working against hard deadlines with real clients. It will, therefore, give you the opportunity to develop expertise in forms of dissemination of historical knowledge beyond the journal article and the monograph. Key readings in public history will be interleafed with work on one of three (TBD) exhibition projects. I will ask you to list your site preference on the first day of class and to explain your choices, including the skills or knowledge that you would bring to the project. In groups of three to four, you will work closely with each institution at the same time as you brainstorm, report on, and present your work in progress to the class as a whole. The last two weeks of the course will be devoted to presentations of the exhibitions. Instructor(s): L. Auslander Terms Offered: Spring

Prerequisite(s): Consent of instructor; email Prof. Auslander by 7th week of winter quarter 21 (lausland@uchicago.edu), if you are interested in taking the course.

Note(s): The course is open to PhD students in the Social Sciences and Humanities Divisions and the Divinity School at any point in their residency as well as to MAPSS and MAPH students.

# HIST 70001. The Departmental Seminar I. 100 Units.

The two-quarter History graduate seminar leads to the completion of the first-year research paper. In the autumn quarter, students will investigate what makes for a good historical question and how to articulate its implications. They will then discuss methods of learning from and interrogating historical work beyond their areas of geographical, chronological, and methodological specializations. They will experiment with novel questions, sources, and methods. Through work in peer review groups, the seminar will build structures of camaraderie and common purpose to sustain the intellectual process. In a set of weekly readings, normally one or two articles, students will learn and discuss the landscapes of history and its subfields. Each week, different department faculty will join us to discuss research design, approaches to framing questions, methods of discovering sources, and techniques for writing historiographical essays. Students will complete a variety of short and often interactive assignments, including forming and workshopping research questions, source lists, and a historiographical essay.

Instructor(s): K. Belew & S. Pincus Terms Offered: Autumn

Prerequisite(s): Consent of instructors; first-year History doctoral students only.

# HIST 70002. The Departmental Seminar II. 100 Units.

The two-quarter History graduate seminar leads to the completion of the first-year research paper. In the winter quarter, students will write and workshop their first-year research paper in concert with their peers and with an outside faculty adviser. The seminar will provide instruction on methods of historical inquiry, argumentation, writing as craft, evidence, style, and revision. Students will workshop two pieces of writing over the course of the quarter, and will read and comment on the drafts of their colleagues.

Instructor(s): K. Belew & S. Pincus Terms Offered: Winter Prerequisite(s): HIST 70001

# HIST 90000. Reading and Research: History Grad. 100 Units.

Independent study with history faculty. Graduate students only. Instructor(s): Arr. Terms Offered: Autumn Spring Summer Winter Note(s): Select section from Faculty List.

#### HIST 90600. Oral Fields Preparation: History. 100 Units.

Independent study with history faculty to prepare for the history PhD oral-fields examination. Instructor(s): Arr. Terms Offered: Autumn Spring Summer Winter Note(s): Enter section from faculty list.



# Committee on International Relations

# Chair

Paul Staniland

Professors

- Michael Albertus, Political Science
- Ralph A. Austen (Emeritus), History
- Mark Philip Bradley, History
- John W. Boyer, History
- Austin Carson, Political Science
- Dipesh Chakrabarty, South Asian Languages and Civilizations, History
- Chiara Cordelli, Political Science
- Terry Clark, Sociology
- Bruce Cumings, History
- Adom Getachew, Political Science
- Tom Ginsberg, Political Science
- Andreas Glaeser, Sociology
- Robert Gulotty, Political Science
- Susan Gzesh, Law
- Gary B. Herrigel, Political Science
- James Hevia, History
- Kimberley Kay Hoang, Sociology
- William Howell, Political Science
- Benjamin Lessing, Political Science
- Darryl Li, Anthropology
- Charles Lipson (Emeritus), Political Science
- Joseph P. Masco, Anthropology
- John J. Mearsheimer, Political Science
- Monika Nalepa, Political Science
- Robert Pape, Political Science
- Steven Pincus, History
- Jennifer Pitts, Political Science
- Paul Poast, Political Science
- Eric Posner, Law
- Paul Staniland, Political Science
- Susan Stokes, Political Science
- Nathan Tarcov, Political Science, Social Thought
- Jennifer Trinitapoli, Sociology
- Lisa Wedeen, Political Science
- Dali Yang, Political Science
- Dingxin Zhao, Sociology
- Marvin Zonis (Emeritus), Business

# Senior Lecturers

- Michael Reese, International Relations
- Matthias Staisch, International Relations
  - Instructional Assistant Professor
- Kevin Weng

Director of Career Services and Senior Program Officer

Shelly Robinson

Career Preparation & Programming Manager

Gözde Erdeniz

Employer Relations Manager

De'Neatria Robinson

Student Affairs Administrator

E.G. Enbar

Administrative and Events Program Specialist

Vanessa Carey

Business Administrator

Tekeisha Yelton-Hunter

# General Information

The MA Program in the Committee on International Relations (CIR) is the nation's oldest and preeminent professional research degree in International Relations. Students enroll in courses across the Social Sciences as well as UChicago's Business, Law, and Public Policy schools. They specialize in two of our five field concentrations: International Security, Conflict Studies and Contentious Politics; International Political Economy and Development; Comparative Studies in Political Institutions and Identity; Human Rights, Environment, and International Law; and Research Methods in the Social Sciences.

CIR students take nine graduate courses and work directly with UChicago faculty on the MA thesis. Students are assisted in their course selections, and offered weekly mentorship for their research, by doctoral student preceptors and by CIR staff.

CIR is highly selective for admission and offers substantial merit aid.

We offer exceptional career preparation that is tailored to the dozens of distinct career paths our students are pursuing. Our programming includes one-on-advising on how to prepare a competitive PhD and JD application; internship and fellowship support; fully funded local, national, and international career development treks; and visits by leading alums who provide mentorship in a variety of fields.

Students interested in combining a CIR M.A. with an M.B.A. can apply to a joint degree program with the University of Chicago Booth School of Business. A dual M.A./M.A. degree with the Harris School of Public Policy and an M.A. /J.D. with the University of Chicago Law School are also available.

#### Program Requirements and Course Work

CIR students complete two core seminars, enroll in an MA thesis workshop sequence, and submit a faculty-approved MA thesis.

# Course Work

Our core seminars, "International Order and Security" and 'International Political Economy' examine the theoretical and methodological approaches that have been broadly influential in the study of International Relations. The seminars feature a mix of foundational and contemporary texts. They furnish a common vocabulary, and core analytical skills, that help students understand how their research commitments have been shaped by past investigators.

In addition, students must successfully complete the introductory seminar Perspectives in International Relations (offered in the Autumn Quarter) and participate in the master's thesis workshop throughout the academic year. Master's workshops are led by CIR preceptors and give students the opportunity to present and discuss their research projects as they develop from proposal to final draft.

Because Perspectives is offered only in the Autumn Quarter, students may not begin the CIR program at any other time of year.

Courses are selected with the guidance of a CIR preceptor. Students register for three graduate classes per quarter, beginning in the Fall and continuing through the Winter and Spring. They take graduate courses in the departments of Anthropology, Economics, History, Political Science, Sociology, the centers for Latin American, Middle Eastern, and South Asian Studies, and professional schools of the University.

# The Master's Thesis

Students write an article-length MA thesis under the supervision of a UChicago faculty member. Their preceptor provides weekly assistance, and serves as the paper's second reader.

The preceptor organizes and leads an MA thesis workshop in the Winter and Spring.

Both the faculty sponsor and the preceptor provide feedback on the proposal, the first draft, and give a written evaluation for the final submission.

Approximately 40% of CIR students graduate in June, and 60% in August.

# Sample Thesis Topics

Some recent MA paper titles include:

'From Knowledge to Power: The Social Sciences, Propaganda, and America's Rise to Hegemony' 'The Structural Origins of Tax Havens'

'Listening to the People: How Declining Responsiveness Drives Populist Sentiments'

'American White Nationalists: Discourses of the Nation, the State, and Globalization'

"Doing Good Looks Good On You?" Evaluating Corporate Social Responsibility and Women's Empowerment at the UN Global Compact'

'Segregation and the Spatial Distribution of Violence in the Northern Ireland Conflict"

'Still Dying to Win: The Coercive Logic of Suicide Attacks against Autocracies"

'Practicing Nationalism in Historical Writing: Japan's Changing Image in Official Chinese Historical Narratives, 1950s to 1990s'

'Mark the Earth with Ruin: Official Memory and Memorialization in Post-Genocide Cambodia and Rwanda'

'Clientelism and Programmatic Politics: The Political Economy of Export Taxes in Argentina'

'An Open Book?: A Look at How Democratic Security-Seekers Signal their Intentions'

'Globalization and the Convergence of Power'

#### M.A. with Specialization

Students may apply for a second year of study, the M.A. with specialization. This second year requires an additional three quarters of residence during which the student takes an additional nine courses. Students apply for the second year with specialization during their first year in residence.

# Joint and Dual Degrees

The joint degree program with the Chicago Booth School of Business is administered through the Division of the Social Sciences. Students pursuing a joint degree must fulfill all the requirements of the CIR degree in addition to the requirements of the respective professional degree, though there are some exceptions. Students enrolled in the dual J.D. /M.A. program with the Law School take nine courses in their fourth year of study, three of which are typically law-school courses; the remaining six come from the CIR list of approved courses. Students enrolled in the Joint M.B.A/M.A. program take a reduced course load of 14 courses in the Booth School of Business and the full nine courses in CIR. Students interested in the dual M.A./M.A. degree program should contact the Harris School of Public Policy for more information.

## Admission

CIR applicants must meet the formal requirements of the Graduate Social Sciences Division.

All applicants must submit GRE scores, except for the joint CIR and Booth School of Business degree program, where the Graduate Management Admission Test (GMAT) is accepted.

All financial aid is merit-based, and CIR offers tuition scholarships at the time of admission.

Applicants from non-English speaking countries must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Some non-native English speakers are exempt, if they have studied in an English language University. Please contact our Dean of Students Office with any questions: ssd-admissions@uchicago.edu

#### How to Apply

The Application for Admission and Financial Aid, with instructions and deadlines, is available online at: https://applyssd.uchicago.edu/apply/.

Applicants interested in the dual J.D./M.A. program must apply separately to both the Law School and the Committee on International Relations. Applicants interested in the joint M.B.A./M.A. program must submit their application to The University of Chicago Booth School of Business, which then refers the application to CIR. Please contact the Harris School of Public Policy regarding the application procedure for the dual M.A./M.A. degree.

For additional information about our program, please contact E.G. Enbar, our Student Affairs Administrator, at 773-702-8312 oregenbar@uchicago.edu.

Please also visit our website, at: https://cir.uchicago.edu/

## Further Information

Additional program information may be found at the Committee's website, http://cir.uchicago.edu/. You can contact the CIR preceptors at (773) 702-8073, and E.G. Enbar, Student Affairs Administrator, at (773) 702-8312 or egenbar@uchicago.edu.

# International Relations Courses

# INRE 30000. Perspectives on International Relations. 000 Units.

This required, non-credit course is designed to introduce students to the craft of research in International Relations. For the first half of Autumn quarter, the full cohort will meet for lectures on two central themes: (i) the fundamental aspects of conducting research in the social sciences, and, specifically, in International Relations; and (ii) preparation of the MA thesis proposal. Then, the three preceptor student groups will meet for workshops over the latter half of the quarter. The purpose of the workshops is to give each student the opportunity to present his or her proposal draft.

Instructor(s): Paul Staniland Terms Offered: Autumn

Note(s): Open only to CIR students.

# INRE 30600. Constructing a Society of Human Rights: A Psychological Framework. 100 Units.

This course is designed to discuss the ways that cultural and social psychology contribute to understandings about human rights conceptually, and how human rights issues emerge from social dynamics. Over the course of the quarter, students will learn about theories on intergroup conflict and prejudice, how an individual's beliefs emerge from social contexts and shape their relationships with others, how obedience to authority is created and abused, and how social positioning and narratives influence conceptions of self and other. We will also discuss the relevance and impact of psychological study and data on human rights issues.

Equivalent Course(s): CHDV 25220, HMRT 25220, PBPL 25220

# INRE 31602. Human Rights: Philosophical Foundations. 100 Units.

Human rights are claims of justice that hold merely in virtue of our shared humanity. In this course we will explore philosophical theories of this elementary and crucial form of justice. Among topics to be considered are the role that dignity and humanity play in grounding such rights, their relation to political and economic institutions, and the distinction between duties of justice and claims of charity or humanitarian aid. Finally we will consider the application of such theories to concrete, problematic and pressing problems, such as global poverty, torture and genocide. (A) (I)

Instructor(s): B. Laurence Terms Offered: Autumn

Equivalent Course(s): LLSO 21002, HIST 39319, PHIL 31002, MAPH 42002, HMRT 31002, HIST 29319, PHIL 21002, HMRT 21002

#### INRE 31700. Human Rights II: History and Theory. 100 Units.

This course is concerned with the theory and the historical evolution of the modern human rights regime. It discusses the emergence of a modern "human rights" culture as a product of the formation and expansion of the system of nation-states and the concurrent rise of value-driven social mobilizations. It proceeds to discuss human rights in two prevailing modalities. First, it explores rights as protection of the body and personhood and the modern, Western notion of individualism. Second, it inquires into rights as they affect groups (e.g., ethnicities and, potentially, transnational corporations) or states. Instructor(s): TBA Terms Offered: Winter

Equivalent Course(s): HIST 29302, LLSO 27100, HMRT 30200, HIST 39302, HMRT 20200, CRES 29302

# INRE 32100. Civil-Military Relations and the Politics of Militaries. 100 Units.

How do we define a military? What is a military's purpose? How have militaries around the world embedded themselves into the social and institutional fabric of the state? How do military leaders act compared to their civilian counterparts when placed in similar political roles? This seminar will help students answer the aforementioned questions by introducing them to the literature on civil-military relations. The general structure of the class readings will focus on two primary themes. The first half of the course will introduce students to long-standing debates over the role of politicization in military organizations and whether such trends are desirable or not. The latter half of the class will focus on research that analyzes the militarization of politics and how such trends might subvert traditional notions of the military profession. This course is intended for CIR students should contact the instructor directly about taking the class. Instructor(s): Kevin Weng Terms Offered: Winter

Note(s): CIR students only.

# INRE 34600. Case Study Methods. 100 Units.

How do social scientists utilize case studies as a method for identifying causal relationships? What are the epistemological assumptions that underlie the use of case studies? How similar or different are these assumptions from those of large-N and other quantitative methodologies? What are some of the limitations of case study research? This seminar will help students address the aforementioned questions by introducing them to ongoing methodological debates within the social sciences surrounding the use of single and comparative case studies. The course is organized according to a "snowball method" of first cementing a baseline understanding of certain individual lessons (e.g. single case selection) before gradually proceeding to larger themes (e.g. comparative case studies) that incorporate and reinforce the lessons learned from previous weeks. Instructor(s): Kevin Weng Terms Offered: Spring Winter

Note(s): CIR students only!

# INRE 34700. Academic Presentation in International Relations & Thesis Preparation. 100 Units.

This class will provide instruction in the norms of publicly presenting one's research in front of an academic audience. Using examples drawn from the literature on International Relations and Comparative Politics, students will learn about the typical practices of structuring a research project for academic consumption. Specific topics will include: addressing alternative hypotheses, formulating a literature review, addressing missing data issues and selection bias, formulating an empirical puzzle, tenets of constructive criticism, etc. At certain intervals in the course, students will present their own workin-progress research to the class body where they will be expected to utilize the lessons from previous sessions. Instructor(s): K. Weng Terms Offered: Spring

Note(s): This course is intended for CIR students in the final stages of writing their Master's Thesis. Non-CIR students should contact the instructor if they wish to attend the class.

## INRE 34800. Historical Processes of State Formation. 100 Units.

How did states come into being? How do we assess "state-ness" or the "strength" of state institutions? Why did nation-states become the primary actor in the international system instead of alternative forms of political organization such as empires, city-states, or city-leagues? What explains variations in the institutional makeups of states? This course helps students formulate an initial set of answers to the previous set of questions by providing an overview of the state-formation literature. Specifically, the class will cover theories that address how states come into being, organize their societies, extract resources, and structure their political institutions. Course readings will initially start with an introduction to varying conceptualizations of the state before moving onto a discussion of how to operationalize and measure degrees of "state-ness". The remaining course readings will explore themes surrounding war, colonialism, civil society, taxation, economic development, & (ultimately) state breakdown.

Instructor(s): K. Weng Terms Offered: Winter

# INRE 36001. Society, Politics and Security in Israel. 100 Units.

This graduate course examines Israel's unique DNA through a thorough examination of its history, society, politics and security challenges. We shall explore these traits as manifested in the defining chapters of Israel's history, since the early stages of the Zionist driven immigration of Jews to the Holy Land, through the establishment of the Jewish State in 1948, until present time. Students will work with primary sources, diverse theoretical perspectives, and rich historiographical material to better understand the Israeli experience, through domestic, regional and international perspectives. Particular attention will be given to the emergence of the Israeli vibrant society and functioning democracy in the background of continuous conflict and wars. The course will explore topics such as: How Israel reconciles between the imperatives and narratives of democracy and Jewishness, between collective ethos and heterogeneous tribalism, and between protracted security challenges and resilience. We will also discuss the multifaceted aspects of the changing Israeli security doctrine and practice, in light of regional threats and international involvement.

Instructor(s): M. Elran Terms Offered: Autumn

Equivalent Course(s): PBPL 28139, JWSC 28139

## INRE 40801. Seminar on the International Politics of Asia. 100 Units.

This seminar is a graduate-level survey of the contemporary cross-national politics of Asia. It centers the perspectives brought to bear on these issues by the state and society of modern India. The course covers four overarching areas of scholarship: (1) statebuilding and its associated practices of national identity construction; (2) civil-military relations; (3) intrastate conflict and contentious politics including human rights and the rule of law; (4) the political economy of development and environmental sustainability since liberalization; and (5) regional geopolitical and geoeconomic competition. This survey is offered distinctly from, but as a pre-requisite for, participation in CIR's March 2020 Asian International Relations Seminar in Mumbai and Delhi. The course emphatically welcomes all students with a substantive interest in the region's politics, regardless of their ability to join us for this subsequent trip. Instructor(s): Michael Reese, Matthias Staisch Terms Offered: Winter

Note(s): Open to CIR students and all others with instructors' consent

#### INRE 41500. MA Research Methods. 100 Units.

This in-person course will foster the development of the students' scholarship through regular interaction with their preceptors. In this course, students will work with preceptors to both synthesize the individualized coursework into a cohesive curriculum and to plan and execute the MA thesis, from choosing research questions, selecting an appropriate research design, elaborating their chosen methodology, conducting research, and writing up their results. Instructor(s): John Hansen, Michael Albertus, James Evans Terms Offered: Autumn Spring Winter Equivalent Course(s): MACS 41500, MAPS 41500

#### INRE 43000. Core Seminar: International Order and Security. 100 Units.

This seminar is a graduate-level survey of international order and security, covering two general areas of scholarship: (1) theories of international order and instability and (2) strategic interaction approaches to international security. The first half of the seminar is devoted to several current approaches to the problem of international (dis)order. Students will be introduced to the dominant theoretical perspectives -- realism, liberalism, and constructivism -- and their competing approaches to international order at various levels of analysis. The second half of the seminar explores theories of strategic interaction regarding the likelihood of war and the maintenance of peace. The concepts of coercion, deterrence, compellence, and reassurance will be discussed at the "general" strategic level; whereas crisis bargaining will be introduced at the "immediate" tactical level. The ultimate goal of the seminar is to provide students with a solid theoretical foundation for future explorations of academic and policy questions of special interest to them. Instructor(s): M. Reese Terms Offered: Autumn,Winter

Note(s): Open only to CIR students

# INRE 43800. Core Seminar: International Political Economy. 100 Units.

This seminar is a graduate-level survey of international political economy (IPE). It addresses three prominent questions: (1) How do governments coordinate to regulate the cross-border flow of goods, services, and capital? In particular, what are the relative merits of relying on decentralized, or market-based institutions, as opposed to centralized, or state-based ones, for doing so? (2) What are the distributional implications of these coordinating devices? Specifically, what kind of cleavages constitute the distributional struggles that characterize today's global economy? (3) Why are the systems of international exchange prone to periodic crisis, and how do governments seek to restore stability, and insure against future volatility? By the end of this part of the core sequence, students will be able to (1) critically evaluate competing (empirical) measurements of the key concepts which constitute theoretical propositions in IPE; and (2) craft a research design that adequately matches a theoretical claim in IPE with relevant empirical data.

Instructor(s): M. Staisch Terms Offered: Autumn, Winter

Note(s): Open only to CIR students

# INRE 43801. Seminar on the International Politics of Asia. 100 Units.

This seminar is a graduate-level survey of the contemporary cross-national politics of Asia. It centers the perspectives brought to bear on these issues by the state and society of modern India. The course covers four overarching areas of scholarship: (1) statebuilding and its associated practices of national identity construction; (2) civil-military relations; (3) intrastate conflict and contentious politics including human rights and the rule of law; (4) the political economy of development and environmental sustainability since liberalization; and (5) regional geopolitical and geoeconomic competition. This survey is offered distinctly from, but as a pre-requisite for, participation in CIR's March 2020 Asian International Relations Seminar in Mumbai and Delhi. The course emphatically welcomes all students with a substantive interest in the region's politics, regardless of their ability to join us for this subsequent trip.

Instructor(s): M. Reese, M. Staisch Terms Offered: Winter Note(s): Open to CIR students and all others with instructors' consent

# INRE 46500. MA Thesis Workshop. 000 Units.

This required, non-credit course is designed to continue the preceptor-group collaboration established in Autumn's Perspectives (INRE 30000). The purpose of the workshop is to give each student the opportunity to present his or her thesis research as it develops during their first year in the CIR program. Must be taken in each of Winter and Spring quarters. Terms Offered: Spring

# INRE 49700. Reading/Research: International Relations. 100 Units.

This course allows students the opportunity to receive course-credit for their thesis research. It may only be taken once. Instructor(s): P. Staniland Terms Offered: Autumn Spring Winter Prerequisite(s): Open only to 1st year CIR students



# Department of Political Science

Chair

William Howell

Professors

- John J. Brehm
- Cathy Cohen
- Michael Dawson
- Scott Gehlbach, Public Policy
- John Mark Hansen
- Gary Herrigel
- William Howell, Public Policy
- John McCormick
- John J. Mearsheimer
- J. Eric Oliver
- John F. Padgett
- Robert Pape
- Jennifer Pitts, Social Thought
- Susan Stokes
- Nathan Tarcov, Social Thought
- Lisa Wedeen
- Dali Yang
- Linda Zerilli

Associate Professors

- Michael Albertus
- Benjamin Lessing
- Sankar Muthu
- Monika Nalepa
- Paul Poast
- Paul Staniland

Assistant Professors

- Ruth Bloch Rubin
- Austin Carson
- Chiara Cordelli
- Adom Getachew
- Robert Gulotty
- Demetra Kasimis
- Matthew Landauer
- Zhaotian Luo
- Andrew McCall
- Patricia Posey
- Rochelle Terman
- James Wilson

**Emeritus Faculty** 

- Charles Lipson
- Gerald N. Rosenberg
- William Sewell
- Duncan Snidal
- Ronald Suny

Associate Members

- Daniel Abebe
- Scott Ashworth
- Christopher Berry
- Christopher Blattman
- Evelyn Z. Brodkin
- Ethan Bueno de Mesquita
- Elisabeth Clemens
- Oeindrila Dube
- Anthony Fowler
- Thomas Ginsburg
- Roger Myerson
- Martha Nussbaum
- James Robinson

The Department of Political Science offers a course of study leading to the PhD degree. A departmental faculty committee makes admission decisions based on an assessment of all the material required in the University application: biographical data, statement of interests and goals in graduate school, transcripts of grades, letters of recommendation, Graduate Record Examination scores, and a writing sample. Committee members want to know what applicants find intellectually exciting and why applicants want to study at the University of Chicago.

The department is committed to training doctoral students in political science, broadly conceived. Our department has a long history of defining some of the most enduring empirical and theoretical debates within political science. We further believe that the best work in political science often crosses subfields and disciplines. Our aim is to help students develop and pursue their intellectual interests while grounding them in the various approaches and methodologies that characterize the modern discipline. Program requirements include a mix of research papers, coursework, and exams so that students can achieve these goals as they proceed expeditiously towards the PhD degree.

# The Graduate Program

Students must complete sixteen courses for quality grades by the end of the second year. Twelve of the sixteen courses must be courses taught by Department faculty, which includes visiting and associate members. In the first year, students should plan on completing a total of nine courses for quality grades. In the second year, students should plan on completing at least seven courses for quality grades. PLSC 50000 Dissertation Proposal Seminar (offered in the Winter Quarter) is required of third year students and does not count as one of the sixteen required courses.

The Department strongly recommends that all graduate students acquire the skill set necessary for successful progress as producers of research within the first two years of coursework. The notion of a skill set will vary with the specific research interests of the students. Students are expected to discuss with their advisors the skill set they will need, and together they will agree on a program of study. The normal expectation for first-year quantitatively-oriented graduate students will include courses on matrix algebra, programming, linear models, and causal identification. Such students also regularly take courses in social choice and game theory. For those students who intend to pursue political theory and qualitative research, the skill set is less established but may entail language training, ethnography training, interpretive methods, archival research, or other methodological courses.

The Department currently offers comprehensive exams in six fields: Theory, American Politics, Comparative Politics, International Relations, Quantitative Methods, and Formal Theory.

Course prerequisites for comprehensive exams typically include either a field seminar that is offered no less than once every other year or a sequence or collection of courses that are offered over two years. All fields provide the materials students should master in order to be considered 'certified' in that area. The Department offers exams during the month of June each year. Some students—such as those entering the program with prior graduate work in political science or who complete the necessary prerequisites for an exam in their first year of study—may take one comprehensive exam after the first year and the second exam at the end of the second year. All other students will take both exams at the end of the second year.

The MA thesis offers an early opportunity for students to undertake a substantial work of independent research and advances a number of objectives, some substantive, others more procedural. The MA thesis can offer an opportunity to launch dissertation research, to secure a publication in a professional journal, to test the viability of an idea or topic that might possibly lead to a dissertation, or to conduct work in an area students know will not be part of the dissertation but that they would like to investigate more deeply than is possible in coursework. The MA thesis gives students the experience of independent research at a manageable scale, before developing a full-fledged dissertation topic. The thesis also can help students to gain a sense of how the germ of an idea becomes an article-length piece of writing (through literature review, the IRB process, operationalization of a question, elaboration of a distinctive argument in relation to existing literature, etc.).

Students are encouraged to begin thinking about their MA thesis in the context of their courses, and to consider seminar papers as bases for an MA thesis. Students also may choose to enroll in PLSC 40100 Thesis Preparation with their main thesis advisor. Students may take up to two units of Thesis Preparation to count toward the sixteen required courses. The

final draft of the MA paper is due no later than November 15 of the third year, though in consultation with advisors students may choose to submit the MA well in advance of this deadline.

Students who have prior graduate work may use as many as five graduate courses completed at other universities to count towards fulfillment of the department's course requirement. Graduate courses previously completed within our department will count on a one-to-one basis towards the fulfilment of the department's course requirement. Students may not use an MA thesis written elsewhere as a substitute for the MA thesis here. The only exception is MA theses written at the University of Chicago, where one of the faculty advisors is in the Department. Students may use a prior MA thesis as the basis for the MA thesis with the consent of faculty advisors, following the above deadlines.

Mentored practical pedagogical experience is a program requirement. To satisfy the requirement, students can serve as teaching assistants in undergraduate lecture courses and in the department's methodology sequence. Advanced graduate students, selected as Grodzins Prize Lecturers, offer their own undergraduate courses. There are also opportunities to serve as teaching interns and instructors in the College's undergraduate core curriculum and as preceptors who assist the undergraduate majors with the writing of BA papers.

After completing courses and exams, students turn to the PhD dissertation. The first step is a dissertation proposal that briefly outlines the research question, significance, argument, and method of the dissertation. PLSC 50000 The Dissertation Proposal Seminar, required in the winter quarter of the third year, is a weekly seminar devoted solely to the presentation and collective discussion of several drafts of each student's dissertation proposal. The proposal must be approved by a committee of three faculty who agree to supervise the dissertation research and present the proposal for departmental approval. The deadline for this approval is June 1 of the third year.

Although advanced graduate research and writing is often a solitary enterprise, students in the department also typically continue to participate in one or more workshops, which are mainly devoted to students' presentation of research in progress for discussion and constructive criticism. Political science students participate in workshops devoted to American Politics, Comparative Politics, East Asia, Political Economy, Political Psychology, Political Theory, and International Politics, to name just a few. There are many other interdisciplinary workshops throughout the University ranging from Law and Economics, to Gender and Sexuality, to Russian Studies, all of which are open to political science students.

Upon receiving final approval of the dissertation by the members of the dissertation committee, the candidate gives a formal presentation based on the dissertation. Following the presentation, which is open to the public, the candidate is questioned by an examining committee of at least three faculty members.

For more information about current faculty, students, requirements, and courses, consult the department webpage at http://political-science.uchicago.edu/.

#### Information on How to Apply

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines, and department specific information is available online at: https://apply-ssd.uchicago.edu/apply/.

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

Political Science Courses for 2020-21

# PLSC 30102. Introduction to Causal Inference. 100 Units.

This course is designed for graduate students and advanced undergraduate students from the social sciences, education, public health science, public policy, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The goal of this course is to equip students with basic knowledge of and analytic skills in causal inference. Topics for the course will include the potential outcomes framework for causal inference; experimental and observational studies; identification assumptions for causal parameters; potential pitfalls of using ANCOVA to estimate a causal effect; propensity score based methods including matching, stratification, inverse-probability-of-treatment-weighting (IPTW), marginal mean weighting through stratification (MMWS), and doubly robust estimation; the instrumental variable (IV) method; regression discontinuity design (RDD) including sharp RDD and fuzzy RDD; difference in difference (DID) and generalized DID methods for cross-section and panel data, and fixed effects model. Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 is a prerequisite. This course is a prerequisite for 'Advanced Topics in Causal Inference' and 'Mediation, moderation, and spillover effects.' Instructor(s): G. Hong Terms Offered: Winter

Prerequisite(s): Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 Note(s): CHDV Distribution: M; M

Equivalent Course(s): CHDV 30102, MACS 51000, SOCI 30315, STAT 31900, PBHS 43201

# PLSC 30700. Introduction to Linear Models. 100 Units.

This course will provide an introduction to the linear model, the dominant form of statistical inference in the social sciences. The goals of the course are to teach students the statistical methods needed to pursue independent large-n research projects and to develop the skills necessary to pursue further methods training in the social sciences. Part I of the course reviews the simple linear model (as seen in STAT 22000 or its equivalent) with attention to the theory of statistical inference and the derivation of estimators. Basic calculus and linear algebra will be introduced. Part II extends the linear model to the multivariate case. Emphasis will be placed on model selection and specification. Part III extends the consequences of data that is 'poorly behaved' and how to cope with the problem. Depending on time, Part IV will introduce special topics like systems of simultaneous equations, logit and probit models, time-series methods, etc. Little prior knowledge of math or statistics is expected, but students are expected to work hard to develop the tools introduced in class.

# PLSC 30901. Game Theory I. 100 Units.

This course introduces students to games of complete information through solving problem sets. We will cover the concepts of dominant strategies, rationalizable strategies, Nash equilibrium, subgame perfection, backward induction, and imperfect information. The course will be centered around several applications of game theory to politics: electoral competition, agenda control, lobbying, voting in legislatures and coalition games.

Instructor(s): M. Nalepa Terms Offered: Autumn

Prerequisite(s): PLSC 40801 Social Choice Theory and PLSC 43401 Mathematical Foundations of Political Methodology or consent of instructor

Equivalent Course(s): PLSC 29102

# PLSC 31000. Game Theory II. 100 Units.

This course introduces students to games of incomplete information and several advanced topics through solving problem sets. We will cover the concepts of Bayes Nash equilibrium, perfect Bayesian equilibrium, and the basics of mechanism design and information design. In terms of applications, the course will extend the topics examined in the prerequisite, PLSC 30901. Game Theory I to allow for incomplete information, with a focus on the competing challenges of moral hazard and adverse selection in those settings.

Instructor(s): Z. Luo Terms Offered: Winter

Prerequisite(s): PLSC 30901 or equivalent and consent of instructor. Undergraduates by consent only. Equivalent Course(s): PLSC 29103

# PLSC 31101. Computational Tools for Social Science. 100 Units.

The purpose of this course is to provide graduate students with the critical technical skills necessary to conduct research in quantitative / computational social science. This course is not an introduction to statistics, computer science, or specialized social science methods. Rather, the focus will be on practical skills necessary to be successful in further methods work. The first portion of the class introduces students to basic computer literacy, terminologies, and programming languages, covering Bash, R, and Git. The second part of the course provides students the opportunity to use the skills they learned in part 1 towards practical applications such as webscraping, data collection through APIs, automated text analysis, etc. We will assume no prior experience with programming or computer science.

Instructor(s): R. Terman Terms Offered: Autumn

# PLSC 31410. Advanced Theories of Gender and Sexuality. 100 Units.

Beginning with the breakup of the New Left and the proliferation of 'new social movements' such as feminism, Black Power, and gay liberation, this seminar explores the key debates around which gender and sexuality were articulated as politically significant categories. How did feminist and queer politics come to be scripted increasingly in terms of identity and its negation? To what extent has a juridical and state-centered conception of politics come to displace quotidian practices of freedom and world-building? What are the limits to rights-oriented political movements? What are the political implications of the recent ontological turn to affect in feminist and queer theory?

Instructor(s): Linda Zerilli Terms Offered: Winter

Note(s): Undergraduates by consent only.

Equivalent Course(s): PLSC 21410, ENGL 30201, ENGL 21401, GNSE 31400, GNSE 21400, MAPH 36500

# PLSC 31717. Plato on Love and Friendship. 100 Units.

This course will explore Plato's understanding of love and friendship, their relations between them and relations to philosophy and politics through an introductory reading of his Phaedrus and Lysis. Instructor(s): Nathan Tarcov Terms Offered: Autumn. Course will be offered Autumn 2020 Prerequisite(s): Open to undergrads by consent. Equivalent Course(s): FNDL 21720, SCTH 31717

# PLSC 31718. Machiavelli's Prince. 100 Units.

A reading of THE PRINCE supplemented by relevant portions of Machiavelli's DISCOURSES, FLORENTINE HISTORIES, and letters and selected secondary literature. Instructor(s): Nathan Tarcov Terms Offered: Winter. Course to be taught Winter 2021 Equivalent Course(s): SCTH 31718
### PLSC 35311. Models of Ancient Politics I: Athens, Sparta, Rome. 100 Units.

This course begins a two-quarter sequence on Athens, Sparta, and Rome as models of politics and their subsequent reception and appropriation in the history of Western political thought. This quarter, we will focus on understanding the institutions, political culture, and political theory of ancient Greece and Rome through an engagement with ancient texts and modern scholarship. Readings will include Thucydides, Plato, Aristotle, Xenophon, Plutarch, Polybius, Livy, and Sallust. Instructor(s): M. Landauer Terms Offered: Winter

Equivalent Course(s): PLSC 25311

#### PLSC 35312. Models of Ancient Politics II: Modern Receptions. 100 Units.

This is the second course in a two-quarter sequence on the importance of Athens, Sparta, and Rome for Western political theory. This quarter we will focus on the reception and appropriation of ancient political models in modern European political thought. Authors to be read include Machiavelli, Montesquieu, Adams, Hume, Rousseau, Mill, and Grote, as well as modern scholars.

Instructor(s): M. Landauer Terms Offered: Spring Equivalent Course(s): PLSC 25312

#### PLSC 35500. Public Opinion. 100 Units.

A close examination of techniques employed, categories utilized and assumptions made by contemporary American students of public opinion. Criticism of these approaches from historical, philosophical and comparative perspectives will be encouraged.

Instructor(s): E. Oliver Terms Offered: Winter

#### PLSC 35601. The Evolution of Ideology and Partisanship. 100 Units.

The seminar examines the evolution of partisanship and ideology in America over the past sixty years. We will examine the factors that shape ideological movements, how ideology has altered the nature of political parties, and what factors party attachment in an era of increasing polarization. Students will conduct original research projects based on readings and class discussion.

Instructor(s): E. Oliver Terms Offered: Winter

#### PLSC 35901. Enlightenment Political Thought. 100 Units.

A comparative examination of the political thought of Thomas Hobbes, Jean-Jacques Rousseau, and Immanuel Kant, with a focus upon the interrelated themes of freedom and authority; resistance and domination; and equality and inequality. We will also consider these political theories in the context of earlier sixteenth century texts on tyranny and resistance, such as the Vindiciae, Contra Tyrannos and La Boétie's Discourse on Voluntary Servitude, and in comparison with Enlightenment writings by John Locke and David Hume.

Instructor(s): S. Muthu Terms Offered: Spring

#### PLSC 36920. Freedom, Justice and Legitimacy. 100 Units.

In this course we will explore two main questions, which are central to both contemporary political theory and political discourse: (1) how different concepts and conceptions of freedom ground different theories of social justice and political legitimacy and (2) how to understand the relationship between justice and legitimacy. To what extent are justice and legitimacy separate ideas? Does legitimacy require justice? Are just states necessarily legitimate? We will critically analyze and normatively assess how different contemporary theories have answered, whether explicitly or implicitly, such questions. The course will focus on five major contemporary theories: liberal-egalitarianism as represented by the work of John Rawls; libertarianism, as represented by the work of Robert Nozick, neo-Lockean theories as represented by the work of John Simmons, neo-republicanism as represented by the work of Philip Pettit, and neo-Kantian theories as represented by the work of work of Arthur Ripstein.

Instructor(s): C. Cordelli, J. Wilson Terms Offered: Autumn Equivalent Course(s): LLSO 26920, PLSC 26920

#### PLSC 37301. Weimar Political Theology: Schmitt and Strauss. 100 Units.

This course is devoted to the idea of 'political theology' that developed during the interwar period in twentieth-century Central Europe, specifically Germany's Weimar Republic. The course's agenda is set by Carl Schmitt, who claimed that both serious intellectual endeavors and political authority require extra-rational and transcendent foundations. Along with Schmitt's works from the period, such as Political Theology and the Concept of the Political, we read and discuss the related writings of perhaps his greatest interlocutor, Leo Strauss.

Instructor(s): J. McCormick Terms Offered: Spring

Prerequisite(s): Consent of instructor.

Equivalent Course(s): PLSC 27301, FNDL 27301

#### PLSC 37323. Leo Strauss and Lucretius On the Nature of Things. 100 Units.

I shall discuss Leo Strauss's 'Notes on Lucretius' (1968) and Lucretius' DE RERUM NATURA with a special focus on the relation of philosophy and poetry.

Terms Offered: Spring. Course will be taught spring 2021

Note(s): Undergrads with consent only.

Equivalent Course(s): SCTH 37323, CLAS 36720, FNDL 27323, PHIL 37323

#### PLSC 38602. American National Security Strategy. 100 Units.

This course surveys contemporary National Security Strategy around the world, focusing on the most urgent and important issues of the U.S. national security agenda. The purpose of the course is to help students better understand how the U.S. formulates national security strategy, key debates over how the U.S. should handle contemporary challenges, and provide important conceptual frameworks that will enable students to grapple with the security challenges of the decade ahead. The course covers recent changes in American grand strategy, nuclear policy, and the use of conventional forces in contemporary conflicts.

Instructor(s): R. Pape Terms Offered: Spring Equivalent Course(s): PLSC 28602

## PLSC 39501. International Political Economy. 100 Units.

This graduate seminar focuses on the prevailing theoretical and empirical research programs in international political economy (IPE). The course will introduce a variety of frontier research problems that animate current work in the field as well as provide experience evaluating empirical research. We will discuss relations between international markets and politics: mass politics, domestic political institutions, and international politics. A central goal of the course is to generate ideas for student research, including papers and dissertation topics.

Instructor(s): R. Gulotty Terms Offered: Spring

## PLSC 40000. Readings: Political Science. 100 Units.

This is a general reading and research course for independent study.

## PLSC 40100. Thesis Preparation: Polsci. 100 Units.

This is an independent study course related to master's paper or dissertation research.

#### PLSC 40315. Black Fugitivity & Fugitive Democracy Radical Democratic Theory and Race. 100 Units.

What kind of rhetorical and political work is the trope of 'fugitivity' being used to perform by scholars across the humanities and social sciences? How should we assess its appeal, value, limitations, and dangers? This seminar pursues these broad questions by exploring figurations of fugitivity specifically in political theory and in black studies, in work by Hannah Arendt and Sheldon Wolin on the one hand, and in work by Hortense Spillers, Fred Moten, and Saidiyah Hartman on the other hand. In these texts fugitivity gains its meanings by juxtaposing death-like imprisonment and impasse to creative action and vitality, but they represent the meaning, location, protagonists, and characteristic practices of fugitivity differently. How can it be that fugitivity is invoked both to secure and yet also to undo the political? Our goal is to discern the stakes in these differences about sociality, maternity, and blackness, about the democratic and the political. To do so we study texts by Arendt, Wolin, Spillers, Moten and Hartman. We explore debates over Arendt's intervention into the Little Rock de-segregation struggle, and recent political theory essays on the relation between 'fugitive democracy' and 'black fugitivity.' We also raise questions about genre, and consider the literary as a form of political theory, by reading Harriet Jacob's Incidents in the Life of a Slave Girl and Colson Whitehead's Underground Railroad. Instructor(s): George Shulman Terms Offered: Spring

Equivalent Course(s): KNOW 40315

#### PLSC 40600. Seminar on IR Theory. 100 Units.

This course is a PhD-level introductory survey of the major scholarly traditions in the field of International Relations. It provides an introduction to the central theoretical approaches including realism, liberalism, and constructivism and their variants. The course also exposes students to more recent non-paradigmatic research programs, reflections on the field's development over time, and the recurring 'meta-debates' which underlie many of the differences in applied areas. Seminar discussion will identify and criticize the central arguments advanced by different scholars in order to assess the relative merits of different theoretical perspectives. The course is designed to help students prepare for the Department's IR general exam: assigned and suggested readings are a starting point for building a reading list; the course offers practice with answering exam questions; students will exercise modes of critical analysis during seminar critical to passing the exam. Instructor(s): R. Pape Terms Offered: Autumn

#### PLSC 40604. Militant Power Politics. 100 Units.

Is a general theory of militant group violence possible and, if so, what is the core logic? Over the past twenty years, the study of militant power politics has exploded both empirically, but especially theoretically. Today, there are a variety of theories of the causes, conduct and consequences of violence by militant non-state actors. The most important are ideological, religious, ethnic, and strategic theories, which rest on fundamentally different assumptions about the coherence of militant groups, the degree of rationality in their decision-making, and the nature of their dynamics in competition with rival states. This seminar will cover the main theories of militant power politics, encouraging students to develop their own ideas about the development of general theories to account for major modern militant groups and carry out policy-relevant research in this area.

Instructor(s): R. Pape Terms Offered: Spring

## PLSC 40610. Seminar on International Security Affairs. 100 Units.

This course introduces students to a selection of the principal literature that forms the foundation of contemporary international security affairs. One set of topics focus on traditional war-related topics, including the causes of war, sources of military effectiveness, and civilian victimization in war. A second set of topics focuses on pre-war and short-of-war issues, including coercive threats, arms racing under the security dilemma, the nuclear revolution thesis, and grey zone or covert uses of force. A third set of topics focuses on ideas, individuals, and institutions, including security-related international organizations, norms, and leader-level dynamics. Each week, our purpose will be to critically assess the strengths and limits of the central arguments of the readings, on their own terms.

Instructor(s): A. Carson Terms Offered: Winter

## PLSC 40815. New Directions in Formal Theory. 100 Units.

In this graduate seminar we will survey recent journal articles that develop formal (mathematical) theories of politics. The range of topics and tools we touch on will be broad. Topics include models of institutions, groups, and behavior, and will span American politics, comparative politics, and international relations. Tools include game theory, network analysis, simulation, axiomatic choice theory, and optimization theory. Our focus will be on what these models are theoretically doing: What they do and do not capture, what makes one mathematical approach more compelling than another, and what we can ultimately learn from a highly stylized (and necessarily incomplete) mathematical representation of politics. The goal of the course is for each participant, including the professor, to emerge with a new research project. Instructor(s): Z. Luo, M. Nalepa Terms Offered: Spring

Prerequisite(s): PLSC 30901, PLSC 31000 or consent of instructor.

### PLSC 41105. Political Economy I: Formal Models of Domestic Politics. 100 Units.

This course provides an overview of formal models of domestic politics-that is, the theory of domestic politics as formalized using the language of game theory. The course covers nine classes of models: electoral competition under certainty and uncertainty, special interest politics, veto players, delegation, coalitions, political agency, non-democracy, and regime change. The material assumes prior coursework in game theory and proficiency in differential and integral calculus. Instructor(s): Gelhbach, S Terms Offered: Winter

Prerequisite(s): PhD Students Only

Equivalent Course(s): PPHA 40102

## PLSC 41500. Nationalism in the Age of Globalization. 100 Units.

Nationalism has been the most powerful political ideology in the world for the past two centuries. This course examines its future in the age of globalization, focusing in particular on the widespread belief that it is an outmoded ideology. Specific topics covered in the course include: the causes of nationalism, its effects on international stability, nationalism and empires, globalization and the future of the state, globalization and national identities, the clash of civilizations, American nationalism, and the clash between Zionism and Palestinian nationalism.

Instructor(s): J. Mearsheimer Terms Offered: Spring

## PLSC 41501. Foundations of Realism. 100 Units.

The aim of this course is to explore some of the core concepts and theoretical ideas that underpin realist thinking. Given the richness of the realist tradition and the limits of the quarter system, many important issues cannot be addressed in any detail. Instructor(s): J. Mearsheimer Terms Offered: Winter

#### PLSC 42020. Tragedy and Philosophy. 100 Units.

Ancient Greek tragedy has been of continuous interest to philosophers, whether they love it or hate it. But they do not agree about what it is and does, or about what insights it offers. We will study the tragic festivals and a select number of tragedies, also consulting some modern studies of ancient Greek tragedy. Then we shall turn to philosophical accounts of the tragic genre, including those of Plato, Aristotle, the Greek and Roman Stoics (especially Seneca), Lessing, Schlegel, Hegel, Schopenhauer, Nietzsche, Iris Murdoch, Sartre, and Bernard Williams. If we have time we will include some study of ancient Greek comedy and its philosophical significance. Admission by instructor permission and it must be sought in email by September 15. Prerequisite: An undergrad major in philosophy or some equivalent solid philosophy preparation, plus permission. This is a 500 level course. Ph.D. students in Philosophy, Classics, and Political Theory may enroll without permission. Law students with ample philosophical background are welcome to enroll but should ask me first. Undergraduates may not enroll. Knowledge of Greek is not required at all, but if you do know Greek, bring the Greek texts of works whose original is Greek along with the translations. If needed, try to use the Loeb Classical Library facing-page translations. Students will write a 25 page seminar paper. This class follows the Law School calendar and will begin the

#### Instructor(s): M. Nussbaum Terms Offered: Autumn

Prerequisite(s): Admission by permission of the instructor. Permission must be sought in writing by September 15. An undergraduate major in philosophy or some equivalent solid philosophy preparation, plus my permission. This is a 500 level course. Ph.D. students in Philosophy, Classics, and Political Theory may enroll without permission. Law students with ample philosophical background are welcome to enroll but should ask me first. Undergraduates may not enroll. Equivalent Course(s): CLAS 42020, RETH 50250, PHIL 50250

#### PLSC 42315. Democracy, Populism and Plutocracy. 100 Units.

How should contemporary democratic societies address the threat to liberty and equality posed by increasing economic inequality and intensifying oligarchic encroachment? Is populism a legitimate response, and if so what kind of populism? Readings include: Arendt, Green, Laclau Levitsky and Ziblatt, Mouffe, Ranciere, Rosanvallon, Urbinati, Winters and Wolin. Instructor(s): J. McCormick Terms Offered: Spring Note(s): Consent of instructor required.

#### PLSC 42701. Seminar in Chinese Politics. 100 Units.

This is a research-oriented seminar for graduate students interested in exploring current research on China and in conducting their own research. Our emphasis will be on the changing nature of the Chinese Party-state, and the relations between state and economy and between state and society as the Chinese society, economy and the level of technology have undergone dramatic changes in recent decades. Throughout the course we'll also pay attention to the course, dynamics, and challenges of making reform. Though the readings are on China, we are to consider China's development comparatively and in view of recent developments in political science.

Instructor(s): D. Yang Terms Offered: Winter

## PLSC 42805. Empire, Law, and Global Justice. 100 Units.

In this research seminar we will read recent scholarship examining the law and politics of empire from the early modern period through the early twentieth century. Empires present particular problems of constitutional law, in particular the relationship between center and periphery. They are sites of conflict over membership, commerce, and the rights of colonized peoples. They are arenas in which conceptions of sovereignty, authority, and regulation are created and fought over. We will read works by historians, political scientists, and legal scholars that situate these issues in the context of particular empires, in both the Atlantic and Pacific worlds, as well as in relation to a more broadly imperial global order. Instructor(s): J. Pitts Terms Offered: Winter

Equivalent Course(s): PLSC 22805

## PLSC 43100. Maximum Likelihood. 100 Units.

The purpose of this course is to familiarize students with the estimation and interpretation of maximum likelihood, a statistical method which permits a close linkage of deductive theory and empirical estimation. Among the problems considered in this course include: models of dichotomous choice, such as turnout and vote choice; models of limited categorical data, such as those for multi-party elections and survey responses; models for counts of uncorrelated events, such as executive orders and bookburnings; models for duration, such as the length of parliamentary coalitions or the tenure of bureaucracies; models for compositional data, such as allocation of time by bureaucrats to task and district vote shares; and models for latent variables, such as for predispositions. The emphasis in this course will be on the extraction of information about political and social phenomena, not upon properties of estimators.

Instructor(s): J. Brehm Terms Offered: Autumn

Prerequisite(s): PLSC 30700 Intro to Linear Models or consent of instructor.

#### PLSC 43300. Political Psychology. 100 Units.

This course is about how the human mind can shape our attitudes and behaviors in the realm of politics. Do our personalities matter for our political choices? How much does what we learn from others determine our political beliefs, or is it most given by self- interested status? When we introduce heuristics, or cognitive short- cuts, to our decisions, what biases follow? How much of what we think about politics comes from our sense of identity, or those we feel are most similar to? Can we trust political actors, and under what kinds of conditions? When is a message persuasive, and why? Instructor(s): J. Brehm Terms Offered: Spring

#### PLSC 43401. Mathematical Foundations of Political Methodology. 100 Units.

This is a first course on the theory and practice of mathematical methods in social science research. These mathematical and computer skills are needed for the quantitative and formal modeling courses offered in the political science department and are increasingly necessary for courses in American, Comparative, and International Relations. We will cover mathematical techniques (linear algebra, calculus, probability) and methods of logical and statistical inference (proofs and statistics). A weekly computing lab will apply these methods, as well as introduce the R statistical computing environment. Students are expected to have completed SOSC 30100: Mathematics for Social Sciences.

Instructor(s): R. Gulotty Terms Offered: Autumn

## PLSC 43701. Constructivism. 100 Units.

This seminar traces the development of the constructivist program in international relations in order to better understand its elements, assumptions, and methods, and apply those to current issues. We start by uncovering the roots of constructivism in sociology and philosophy and examine structuation theory, the English School, world systems theory, regime theory, and sociological institutionalism. The second part of this course focuses on the constructivist agenda in international relations, its boundaries and its critics. In the last part of the course we examine current research in international relations that draws on constructivist methods, including work on the role of norms, epistemic communities, transnational civil society, and the origins of the state.

Instructor(s): R. Terman Terms Offered: Spring

#### PLSC 43801. Plato's Legacies. 100 Units.

Some of the most significant efforts to question political theory's core concepts, unsettle its approaches, and expose its dangerous ideals have depended on major re-interpretations of Plato's thought. This course investigates the broad critical impulse to treat Plato as the originator of political positions and interpretive assumptions that late modernity frequently seeks to critique and less often to celebrate. We consider the charges of essentialism, authoritarianism, and foundationalism, among others, and ask to what (if any) extent considerations of the texts' historical contexts and dramaturgical conditions have factored into these assessments. Readings will include works by Popper, Strauss, Arendt, Derrida, Castoriadis, Wolin, Irigaray, Cavarero, Butler, and Rancière alongside Plato's dialogues. Students are expected to be familiar with Plato's thought upon enrolling.

Instructor(s): D. Kasimis Terms Offered: Spring Equivalent Course(s): CLAS 33815

## PLSC 43902. U.S. Congress. 100 Units.

The purpose of this seminar is to introduce graduate students to the literature on the U.S. Congress. Although we will read a range of studies with different methodological approaches and theoretical perspectives, including some comparative research, we will focus in particular on the development of the U.S. Congress over time. We will be concerned with analyzing, explaining, and understanding key transformative sequences in American legislative politics-tracing the implications of these transformations through to contemporary times. To discuss these questions in appropriate depth, we will limit our inquiry to Congress as an institution (e.g., internal processes and behavior), discussing congressional campaigns and elections only as they relate to these subjects.

Instructor(s): R. Bloch Rubin Terms Offered: Autumn

## PLSC 44205. Decolonization and Political Theory. 100 Units.

This course turns to the renewed attention to decolonization in political theory, intellectual history, and social theory. Reading the recent and growing literature on decolonization, it explores two threads. First, it seeks to understand how the recent work on constitutionalism, popular sovereignty, and indigeneity reframes problem of decolonization, revising and reconfiguring the dilemmas of politics after empire. Second, it examines how the context and lens of decolonization and postcolonial social formations might help us to rethink and reframe key concepts of political theory including democracy and sovereignty. This is reading intensive course focused on recent works rather than primary texts. Instructor(s): A. Getachew Terms Offered: Winter

### PLSC 45501. Black Political Thought: The Problem of Freedom. 100 Units.

In the history of political thought slavery constitutes the paradigmatic metaphor of unfreedom against which normative visions of freedom are articulated. But as historians and theorists have noted, this juxtaposition of slavery and freedom often appears with little regard to the historical experience of the most expansive modern system of slavery-the transatlantic slave trade and chattel slavery in the New World. This course examines the 'problem of freedom' by centering this experience. Drawing on texts that range from the slave narrative to the novel, it examines how visions of freedom were articulated through the experience of new world slavery, considers the ambivalence and limits of emancipation and explores why and how the figure of the slave recurs in contemporary political culture. These questions and aims are informed by two broader impulses. First, contemporary political theory has much to gain from a more explicit and nuanced engagement with the experience and legacy of slavery. Second, the transatlantic slave trade and new world slavery are constitutive of black modernity and black political thought. Returning to and rethinking this site is thus one way of better grasping its contours. Instructor(s): A. Getachew Terms Offered: Spring

Equivalent Course(s): CRES 45510

## PLSC 45710. Race and Capitalism. 100 Units.

This course will address issues of race and capitalism. Instructor(s): Dawson, Michael Katzenstein, Emily Terms Offered: Winter Equivalent Course(s): CRES 45700

#### PLSC 46401. Co-evolution of States and Markets. 100 Units.

This course will focus on the emergence of alternative forms of organization control (e.g., centralized bureaucracy, multiple hierarchies, elite networks, and clientage) in different social structural contexts (e.g., the interaction of kinship, class, nation states, markets and heterodox mobilization). Themes will be illustrated in numerous cross-cultural contexts. Instructor(s): J. Padgett Terms Offered: Winter

Equivalent Course(s): SOCI 40232

### PLSC 47703. Exemplary Leaders: Livy, Plutarch, and Machiavelli. 100 Units.

Cicero famously called history the 'schoolmistress of life.' This course explores how ancient and early modern authorsin particular, Livy, Plutarch, and Machiavelli-used the lives and actions of great individuals from the Greek and Roman past to establish models of political behavior for their own day and for posterity. Such figures include Solon, Lycurgus, Alexander, Romulus, Brutus, Camillus, Fabius Maximus, Scipio Africanus, Julius Caesar, and Augustus. We will consider how their actions are submitted to praise or blame, presented as examples for imitation or avoidance, and examine how the comparisons and contrasts established among the different historical individuals allow new models and norms to emerge. No one figure can provide a definitive model. Illustrious individuals help define values even when we mere mortals cannot aspire to reach their level of virtue or depravity. Course open to undergraduates and graduate students. Readings will be in English. Students wishing to read Latin, Greek, or Italian will receive support from the professors. Instructor(s): J. McCormick, M. Lowrie Terms Offered: Winter

Equivalent Course(s): PLSC 27703, FNDL 27716, CLCV 27716, CLAS 37716

#### PLSC 47805. Normativity After Wittgenstein. 100 Units.

You must bear in mind that the language game is so to say something unpredictable. I mean: it is not based on grounds. It is not reasonable (or unreasonable). It is there-like our life, '-On Certainty §559 In the now longstanding debate over positivism, Wittgenstein has appeared to many social and political theorists as offering an alternative to the impossible choice between objectivism and subjectivism. Wittgenstein's understanding of rules and rule-following, it is said, offers a third way of thinking about normativity that takes into account the (subjectivist) notion of the unique or meaningful nature of human thought and action, without relinquishing the (objectivist) idea that normativity necessarily transcends individuals, their actual practices of speaking and acting. Accordingly, Wittgenstein is seen as replacing the positivist's law-governed (nomothetic) view of human speech and action with a rule-governed account that does not reduce meaning to individual subjective states. In this course we critically interrogate this view of normativity in Wittgenstein's thought. We take up the 'therapeutic reading' of his work pioneered by Stanley Cavell, according to which Wittgenstein does not put forward an alternative theory of linguistic meaning but seeks to expose misunderstandings about what kinds of structures must underwrite everything that humans can meaningfully do or say. Instructor(s): L. Zerilli Terms Offered. Spring

PLSC 48001. Field Seminar in Comparative Politics I. 100 Units.

This seminar broadly surveys the study of comparative politics in contemporary political science. Instructor(s): S. Stokes Terms Offered: Autumn

#### PLSC 48101. Field Seminar in Comparative Politics II. 100 Units.

This seminar broadly surveys the study of comparative politics in contemporary political science. Instructor(s): S. Stokes Terms Offered: Winter

#### PLSC 48401. Quantitative Security. 100 Units.

Since Quincy Wright's A Study of War, scholars of war and security have collected and analyzed data. This course guides students through an intellectual history of the quantitative study of war. The course begins with Wright, moves to the founding of the Correlates of War project in the late 1960s, and then explores the proliferation of quantitative conflict studies in the 1990s and 2000s. The course ends by considering the recent focus on experimental and quasi-experimental analysis. Throughout the course, students will be introduced to the empirical methods used to study conflict and the data issues facing quantitative conflict scholars. For students with limited training in quantitative methods, this course will serve as a useful introduction to such methods. For students with extensive experience with quantitative methods, this course will deepen their understanding of when and how to apply these methods.

Instructor(s): P. Poast Terms Offered: Winter

Equivalent Course(s): PPHA 39830

## PLSC 49500. American Grand Strategy. 100 Units.

This course examines the evolution of American grand strategy since 1900, when the United States first emerged on the world stage as a great power. The focus is on assessing how its leaders have thought over time about which areas of the world are worth fighting and dying for, when it is necessary to fight in those strategically important areas, and what kinds of military forces are needed for deterrence and war-fighting in those regions.

Instructor(s): J. Mearsheimer Terms Offered: Winter

Equivalent Course(s): PLSC 28400

## PLSC 50000. Dissertation Proposal Seminar. 100 Units.

A weekly seminar devoted to the presentation and collective discussion of several drafts of each student's dissertation proposal.

Instructor(s): L. Zerilli Terms Offered: Winter

#### PLSC 51404. Global Inequality. 100 Units.

Global income and wealth are highly concentrated. The richest 2% of the population own about half of the global assets. Per capita income in the United States is around \$47,000 and in Europe it is around \$30,500, while in India it is \$3,400 and in Congo, it is \$329. There are equally unsettling inequalities in longevity, health, and education. In this interdisciplinary seminar, we ask what duties nations and individuals have to address these inequalities and what are the best strategies for doing so. What role must each country play in helping itself? What is the role of international agreements and agencies, of NGOs, of political institutions, and of corporations in addressing global poverty? How do we weigh policies that emphasize growth against policies that emphasize within-country equality, health, or education? In seeking answers to these questions, the class will combine readings on the law and economics of global development with readings on the philosophy of global justice. A particular focus will be on the role that legal institutions, both domestic and international, play in discharging these exploited for the benefit of the citizens of the country.

Instructor(s): M. Nussbaum; D. Weisbach Terms Offered: Winter

Prerequisite(s): Students will be expected to write a paper, which may qualify for substantial writing credit.

Note(s): This is a seminar scheduled through the Law School, but we are happy to admit by permission about ten non-law students.

Equivalent Course(s): PHIL 51404, RETH 51404

#### PLSC 53101. Seminar: Democracy and the Information Technology Revolution. 100 Units.

The revolution in information technologies has serious implications for democratic societies. We concentrate, though not exclusively, on the United States. We look at which populations have the most access to technology-based information sources (the digital divide), and how individual and group identities are being forged online. We ask how is the responsiveness of government being affected, and how representative is the online community. Severe conflict over the tension between national security and individual privacy rights in the U.S., United Kingdom and Ireland will be explored as well. We analyze both modern works (such as those by Turkle and Gilder) and the work of modern democratic theorists (such as Habermas). An emphasis in this course will be the methodologies and research agendas utilized by scholars in this field.

Instructor(s): M. Dawson Terms Offered: Spring

#### PLSC 57200. Network Analysis. 100 Units.

This seminar explores the sociological utility of the network as a unit of analysis. How do the patterns of social ties in which individuals are embedded differentially affect their ability to cope with crises, their decisions to move or change jobs, their eagerness to adopt new attitudes and behaviors? The seminar group will consider (a) how the network differs from other units of analysis, (b) structural properties of networks, consequences of flows (or content) in network ties, and (c) dynamics of those ties.

Instructor(s): J. Padgett Terms Offered: Autumn Equivalent Course(s): SOCI 50096

#### PLSC 61901. Colloquium: Historical Texts of Hindu Nationalism. 100 Units.

This course will discuss and analyze some classic texts of Hindu nationalism, including those by Vivekananda, Savarkar, Golwalkar, and others.

Instructor(s): D. Chakrabarty and J. Pitts Terms Offered: Spring Equivalent Course(s): HIST 61901, SALC 61901



# Department of Psychology

## Chair

David A. Gallo

## Professors

- Edward S. Awh
- Jean Decety
- David A. Gallo
- Susan Goldin-Meadow
- Leslie M. Kay
- Boaz Keysar
- Katherine D. Kinzler
- Susan Cohen Levine
- Daniel Margoliash, Organismal Biology and Anatomy
- Howard C. Nusbaum
- Brian Prendergast
- Steven K. Shevell
- Richard Shweder, Human Development
- Michael Silverstein, Anthropology
- Edward K. Vogel
- Amanda Woodward

Associate Professors

- Marc G. Berman
- Sarah London
- Greg J. Norman

## Assistant Professors

- Wilma A. Bainbridge
- Monica Rosenberg
- Alex Shaw
- Jai Yu

Emeritus Faculty

- R. Darrell Bock
- Abraham Bookstein, Humanities Division
- Norman M. Bradburn
- Robert A. Butler, Surgery
- Mihaly Csikszentmihalyi
- Eugene T. Gendlin
- William Goldstein
- Sebastian P. Grossman
- Eric P. Hamp, Linguistics
- Philip W. Jackson, Education
- Jerre Levy
- Frederick F. Lighthall, Education
- John A. Lucy, Comparative Human Development
- Martha McClintock
- David McNeill
- Joel M. Pokorny, Ophthalmology and Visual Science
- Allan Rechtschaffen, Psychiatry
- Milton J. Rosenberg
- Vivianne Smith, Ophthalmology and Visual Science

- Nancy Lou Stein
- Benjamin D. Wright

Department website: http://psychology.uchicago.edu

The primary focus of the study of psychology is on the individual. Thus, its scope includes the biological processes of brain growth, development and functioning; the perceptual and cognitive processes by which information is acquired, stored, used and communicated; the comprehension, production, and use of language from a psychological viewpoint; the social, cultural, and emotional processes by which experience is interpreted and organized; and the developmental processes that underlie change from infancy through adulthood. Training emphasizes the conceptual theories that describe and explain these processes, and the variety of methods that are used to study them.

Originally founded as the Laboratory of Psychology in 1893, the Department of Psychology has been for a century a leading center of scholarship, research and teaching in psychology and related fields. Among its distinguished faculty and students have been James Rowland Angell, John Dewey, George Herbert Mead, John B. Watson, the founder of behaviorism, L. L. Thurstone, a pioneer in psychological measurement, Karl Lashley, Klüver and Bucy, Kleitman, discoverer of REM sleep, Frank Beach, founder of behaviorial endocrinology, W. C. Allee who viewed biology as a social phenomenon, and Roger Sperry, Nobel Prize winner for his work in cerebral lateralization. The present Department of Psychology is conscious of its distinguished intellectual forebears and continues to reflect its heritage in its commitment to research, the scope of its inquiry, and the diversity of its programs of graduate study.

Moreover, consistent with the interdisciplinary traditions of the University of Chicago, the Department of Psychology maintains close connections with other departments in the University. The department's faculty and students actively participate in courses, colloquia, workshops and joint research ventures with scholars in related departments, including, but not confined to, anthropology, biology, computer science, computational neuroscience, linguistics, neurobiology, and philosophy, and in the University's professional schools of business, public policy, law, medicine, and social service administration.

The Department of Psychology is organized into specialized training and research programs that reflect the contemporary state of the discipline as well as wide ranging interests of its own faculty. They are currently the Cognition Program, the Developmental Psychology Program, the Integrative Neuroscience Program, the Perception Program, and the Social Psychology Program. The interdisciplinary character of the University and the Department of Psychology is reflected in the fact that many faculty members serve on more than one of the department's programs.

#### Degrees

The course of study offered by the Department of Psychology is designed primarily to prepare students for careers in research and teaching and for whatever professional work is necessary as an adjunct to these career objectives. Programs of graduate study offered by the department lead to the PhD degree in the Division of the Social Sciences. In order to qualify for the PhD degree, students must satisfy:

- 1. The University's residency requirements
- 2. The requirements of the Division of the Social Sciences
- 3. The requirements of the particular program of the Department of Psychology

The Department of Psychology does not offer courses of study leading to the degree of Master of Arts. However, students admitted to doctoral study may take the Master of Arts degree as an optional step in the doctoral program. Similarly, a student admitted who must leave the program, for whatever reason, may apply for a terminal Masters of Arts degree, providing the student has met the University's residency requirements, the requirements of the Division of the Social Sciences, and the program requirements of the particular program of the Department of Psychology.

#### Psychology Linguistics Joint PhD Program

A joint PhD degree program in psychology and linguistics exists for those students who are interested in completing degree requirements in both fields. Psychology students in the Language area of the Cognition Program may apply to the joint degree program in the second year and beyond, but are not required to do so.

#### Psychology-Business Joint PhD Program

A joint PhD degree program in psychology and business exists for those students who are interested in completing degree requirements in both fields. This program is overseen jointly by the Department of Psychology and by the Managerial and Organizational Behavior Area in the Booth School of Business. Admission to this program requires admission to both the PhD program in psychology and at Booth School of Business. Faculty in both programs will determine, based in a student's primary research interests and/or explicit preferences for a primary research advisor, which program will be the student's primary affiliation.

#### Admission

Students are admitted by application to the Department of Psychology to pursue courses of study in doctoral programs that are formulated by the individual programs. Applicants must specify the program to which they are applying. Applicants will be considered for admission only if they have earned a bachelor's degree or its equivalent. Admission depends upon the strength of the general undergraduate record, scores on the Graduate Record Examination, letters of

recommendation, personal statement and interests, and relevant laboratory or field research experience. Please refer to the Office of International Affairs web site: https://internationalaffairs.uchicago.edu/students/prospective/toefl.shtml (https://internationalaffairs.uchicago.edu/students/prospective/toefl.shtml/). Foreign language students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Testing System (IELTS). Candidates for admission are expected to have some background in psychology as well as mathematics and statistics. Candidates with backgrounds in anthropology, history or sociology are encouraged to apply to Psychology, (the Integrative Neuroscience Program); those with strong biological training and interests are encouraged to apply to Psychology, (the Integrative Neuroscience Program or the Social Program).

Students are admitted through the Division of the Social Sciences. Students already enrolled in the Department of Linguistics of the Division of the Humanities who wish to work toward the joint Ph.D. In Psychology, (the Language area of the Cognition Program) and in Linguistics must be admitted as well to the Department of Psychology through the Division of the Social Sciences.

#### How to Apply

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://apply-ssd.uchicago.edu/apply/. Most of the required supplemental material can be uploaded into the application.

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

For additional information about the Psychology program, please see: http://psychology.uchicago.edu/ or call 773-702-8861.

#### General Requirements for Doctoral Students

All doctoral students in the Department of Psychology must complete the common graduate curriculum. In addition, each student must complete the course requirements specified by one of the department's specialized training and research programs. In exceptional cases, a student may design an individual sequence of courses. This sequence must be approved by the curriculum and student affairs committee before the student undertakes it. Completion of these course requirements is a prerequisite for Ph.D. candidacy.

## Common Graduate Curriculum

The common curriculum consists of a maximum of 8 courses. Other requirements for graduate students will be set by the areas of specialization.

Proseminar: One-quarter course in which faculty members whose primary affiliation is the Department of Psychology give a summary of their ongoing research and students write a research proposal, to be submitted for an NSF graduate fellowship if the student is eligible for this funding. Professional development topics are also covered.

Statistics requirement, passed with a grade of B or better:

STAT 22000	Statistical Methods and Applications (or BUSF 41000 or equivalent approved by the Graduate Curriculum Committee. More advanced courses, for which these courses are prerequisites, also fulfill this requirement.)	100
PSYC 37300	Experimental Design I	100
PSYC 37900	Experimental Design II	100

#### Trial research seminar

All graduate students are required to take the trial research seminar in the spring of the first year. The purpose of this seminar is to help students formulate and complete their trial research projects.

#### Breadth Requirement

Students are required to take a minimum of three doctoral level courses in Psychology, extending across different areas of psychological science. These courses should be chosen in consultation with the student's advisor and program area. These courses must be passed with a grade of B or better.

## Department of Psychology Research Requirements

#### Trial Research Project

- 1. Each student will complete a trial research project under the guidance of a faculty advisor or advisors by the end of the 7th week of the spring quarter of the second year.
- 2. At the start of the project, each student must form a trial research committee, composed of three faculty members. Typically, the chair of the committee is the student's primary research advisor. The chair of the committee must be a faculty or emeritus faculty member in the Psychology Department. At least one other member of the committee must be a faculty, emeritus faculty or affiliated faculty member in the Psychology Department. The third member of the committee must be from outside of the Psychology Department, provided that the chair of the trial research committee gives his or her approval.

- 3. The student must submit a proposal for the trial research project to his or her committee for approval by the second week of autumn quarter of the second year. Essential to this approval is the committee's decision that the project can feasibly be completed by the end of the second year.
- On Friday of the seventh week of the spring quarter of the student's second year a written report of the trial research project is due.
- 5. The student will submit the trial research paper prior to the end of the spring quarter of the second year and defend the trial research paper at a hearing with his or her committee prior to the end of the Spring Quarter of the second year. At the hearing, the committee will also assess the student's breadth and depth of knowledge of his or her research problem.
- 6. The student's committee will have evaluated the report, and will have submitted a written evaluation to the Student Affairs Committee by the end of the spring quarter.
- 7. Successful completion of the trial research project is a prerequisite for PhD candidacy.

#### Dissertation

- 1. To begin the dissertation process, a student must form a three-member dissertation committee consisting of a chairperson and two other faculty members. Typically, the chair is the student's primary research advisor. The chair of the dissertation committee must be a faculty or emeritus faculty member in the Psychology Department. At least one other member of the committee must be a faculty, emeritus faculty or affiliated faculty member in the Psychology Department. The third member of the committee must be from the university of Chicago, but may be from outside of the Psychology Department, provided that the chair of the dissertation committee gives his or her approval.
- 2. Once a dissertation committee exists, the student must formulate an independent research project to be carried out under the committee's guidance. The student will then prepare a written dissertation proposal and submit it to his or her committee. When the student's advisor agrees, the student may schedule an oral defense of the proposal.
- 3. To be admitted to PhD candidacy, a student must have successfully completed: (a) the Common Graduate Curriculum (including the statistics, and breadth requirement); (b) the course requirements specified by a program or an individual course of study approved by the Curriculum Committee; (c) a trial research project; (d) approval of the dissertation proposal by all members of the student's dissertation committee following the oral defense.
- 4. The completed thesis must be submitted to all three committee members. When the student's advisor agrees, the student may schedule an oral defense of the dissertation. The oral exam is administered by four members of the University community: the three members of the dissertation committee and an outside reader. The outside reader may be a faculty member at the University of Chicago, or a scientist at another institution. The outside reader must be approved by the thesis advisor. If, after the oral defense, all committee members approve the thesis, the student has met the Psychology Department's requirements for the PhD degree.

#### **Cognition Program**

Research on cognition lies at the core of the study of many basic psychological mechanisms (e.g., recognition, attention, categorization, memory, inference) and in recent years, neuroimaging methods have been used to make enormous strides grounding these mechanisms in the brain. Work on cognitive mechanisms has been important in a number of other areas of psychology (e.g., Social Psychology and Developmental Psychology) and provides an important theoretical foundation for understanding higher order cognition including language use, reasoning, and problem solving.

#### Curriculum

There are three elements in the graduate curriculum of the Cognition Program.

1. Departmental curriculum. Students must complete the departmental core graduate curriculum.

2. Basic courses. Three basic courses. The following list includes possible courses, including those that are not offered every year. The purpose of this requirement is to develop a deeper understanding of the theories and methods used to scientifically study cognition, and how these approaches are central to many areas of psychological inquiry. Pre-approved courses are:

PSYC 31200 Systems Neuroscience

PSYC 32414: Cognitive Neuroscience

PSYC 35700: Psychology of Spoken Language

PSYC 37400 Human Memory

PSYC 38655: Environmental Neuroscience

PSYC 40107 Behavioral Neuroscience

PSYC 41000: Advanced Topics in Color Vision

PSYC 41400: Evolutionary Cognitive Psychology

PSYC 38300 Attention

#### PSYC 43200 Seminar in Language Development

#### PSYC 43600 Processes of Judgement and Decision Making

#### PSYC 43650: The Development of Social Cognition

Students may also propose other courses, based on course offerings in a given year. Such student-proposed courses should be approved by the cognition area chair prior to taking them.

3. Advanced courses and seminars. Students are strongly encouraged to participate in advanced courses and seminars, particularly in their area of interest.

#### The Developmental Psychology Program

There is a strong history of work in developmental psychology at the University of Chicago. The goal of this program is to foster the continuing development of this area by providing a program of study for graduate students and a community of researchers who share an interest in how development occurs. The Developmental Psychology program offers graduate study which investigates child psychology from a variety of perspectives. Four major research areas make up the program: cognitive development, social and emotional development, language and communicative development, and biological development. Specific topics of research specialization include: vocabulary acquisition, the development of gesture and other forms of nonverbal communication, the development of discourse abilities, mathematical and number knowledge in infants and children, the effects of early brain damage on development, social cognitive development in infancy and early childhood, early emotional understanding, the development of autobiographical memory, parent child interaction, language socialization, cultural influences on development, and environmental effects on language development and school achievement. The emphasis is on the use of experimental and observational methods for the study of development.

#### Curriculum

In their third and fourth year students write a theoretical review relevant to their dissertation. Ideally, this review could be a publishable article, suitable for a journal such as a Psychological Bulletin or Developmental Review and will help in formulating the dissertation.

- General course: PSYC 40500 Advanced Seminar in Developmental Psychology is required of all students in the program. A prerequisite for this course is that the student has already taken a survey course in developmental psychology.
- 2. An advanced course in three of four areas of Developmental Psychology. Certain seminars may also fulfill these requirements. Below are a few examples of courses that will fulfill these requirements. This is not a comprehensive list as course offerings change from year to year. Students may petition the developmental area chair to count courses not included on this list. Topics in Developmental Psychology along with an additional paper may, under special circumstances, be used towards one course satisfying this requirement, with permission of the developmental area chair.

  a. Cognitive/Intellectual Development:
  - PSYC 42550 Topics in Cognitive Development; PSYC 33600 Development in Infancy; PSYC 42040 Seminar: Mathematical Development
  - Biological Development: PSYC 31700 Developmental Biopsychology; Psyc 34900: Biopsychology of Attachment (D. Maestripieri); PSYC 46662 Genes and Behavior; PSYC 44450 Developmental Social Neuroscience.
  - Language/Communicative Development: PSYC 43200 Seminar in Language Development; Psyc 35500: Language Socialization (J. Lucy).
  - Social/Emotional Development: PSYC 43650 The Development of Social Cognition; PSYC 34500 Developmental and Neuroscience Perspectives on Social Cognition.

Students are expected to take advanced courses and seminars, particularly in their area of interest, and to attend the weekly meeting of Topics in Developmental Psychology.

#### Integrative Neuroscience

The notion that 100 billion neurons give rise to human behavior proved daunting up through the 20th Century because neuroscientists were limited by existing technologies to studying the properties of single neurons or small groups of neurons. Characterizing simple neural circuits has led to an understanding of a variety of sensory processes, such as the initial steps in vision, and motor processes, such as the generation of locomotion patterns. However, unraveling the neural substrates of more complex behaviors, such as the ability to pay attention to relevant events in its surroundings or the ability to understand the likely events going through the mind of another, remains one of the major challenges for the neurosciences in the twenty-first century. In contrast to simple behaviors, these complex behaviors depend on interactions within a network of different brain structures. Studying the neural bases of complex behaviors, thus, requires an integrative neuroscience approach.

The Integrative Neuroscience graduate program at the University of Chicago is designed to provide the training and research opportunities for the next generation of behavioral, cognitive, and social neuroscientists. Behavioral, cognitive, and social neuroscience represent three complementary and partially overlapping aspects of this integrative neuroscience of mind and behavior. Behavioral neuroscience places an emphasis on the biological mechanisms underlying basic behavioral processes; cognitive neuroscience places an emphasis on the biological mechanisms underlying cognition, with a specific focus on the neural substrates of mental processes and their behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying basic behavioral processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying basic behavioral processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying basic behavioral processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying basic behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying social processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying social processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying social processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying social processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying social processes and behavioral manifestations; and social neuroscience places an emphasis on the biological mechanisms underlying social processes and behavioral manifestations; and social neuroscience places

communicate mental states including the beliefs and desires of others and to form and maintain interpersonal and group relationships. The University of Chicago is optimally positioned to meet this challenge because its unique academic structure facilitates interactions across disciplinary perspectives.

## Curriculum

Students must complete the departmental core graduate curriculum.

As part of this curriculum and with one additional course, IN students complete:

- Psychology Department Breadth Courses (2\* courses) \*IN students will take two advanced courses within the Department of Psychology
- 2. Two of Four Core Neuroscience Courses (Cellular, Behavioral, Systems, Molecular) It is suggested that most students take at least Cellular and Behavioral, but we understand that needs depend on research focus.

IN students are encouraged to take additional advanced courses. The program offers the following advanced courses. All of these courses will not be offered every year.

- PSYC 33960 Biological Rhythms and Behavior
- PSYC 38300 Attention
- Advanced Cognitive Neuroscience (PSYC 38760)
- Neural Oscillations (PSYC 37150)
- Neuropsychopharmacology (PSYC 36901)
- PSYC 32000 Color Vision
- PSYC 37400 Human Memory or LM&C
- PSYC 33700 Perception and Action
- PSYC 33750 Seminar: Skill Acquisition and Sensorimotor Learning
- PSYC 33300 The Social Brain and Empathy
- Attitudes & Persuasion (Psyc 46100)
- PSYC 35950 Stereotyping and Prejudice
- PSYC 34700 Social Cognition
- PSYC 35000 Physiology Of Vision
- PSYC 39000 Vision

## Trial Research Project

Each student completes a Trial Research Project under the guidance of a faculty advisor. This is a significant piece of research carried out over a 12-month period. Both written and oral presentations of the research are required. The student will submit the trial research paper prior to the end of the Spring Quarter of the second year and defend the trial research paper at a hearing with his or her committee prior to the end of Spring Quarter of the second year. The oral examination will also probe the students' breadth and depth of knowledge associated with the completed coursework.

## Doctoral Dissertation

The Doctoral Dissertation is an independent research project carried out under the guidance of a faculty Dissertation Committee with at least four members. At least two members of the committee, including the chair, must be in the Integrative Neuroscience program; a third member must be in the Department of Psychology. The chair of the committee typically is the primary research advisor. A written dissertation proposal is presented to the committee in advance of an oral Proposal Hearing.

A student is admitted to PhD Candidacy after successfully completing (i) all course requirements, (ii) written and oral presentations of the Trial Research Project, and (iii) an approved dissertation proposal (including oral defense).

The doctoral dissertation is submitted to the dissertation committee prior to a final oral defense (the "final oral examination"). The dissertation committee plus an outside reader, who may be a faculty member at the University of Chicago or a scientist at another institution, administer the final oral exam. The committee members and reader evaluate the dissertation in private after the oral exam. At most one abstention or vote to disapprove is allowed among the committee members and reader; all others must approve the dissertation to satisfy the requirements for the PhD degree.

## The Social Psychology Program

The general philosophy of the curriculum is to provide students with the requisite knowledge and skills to excel in mainstream, academic social psychology. In addition to Departmental requirements, graduate students in the University of Chicago Social Psychology Program must fulfill the following course requirements:

1. General Courses:

a. PSYC 40600 Advanced Seminar in Social Psychology: Introductory course in experimental social psychology. This course will also fulfill part of the core course requirements of the common graduate curriculum.

- Topics in Experimental Social Psychology: An ongoing seminar taught collectively by the Core Faculty each quarter. Required of Social Area Students in Years 1-3. Please note: This course is neither required of Joint students nor is it available to them.
- 3. An advanced course or seminar in at least two of the following Areas of Emphasis:
  - Self
  - Social Cognition
  - Social and Cognitive Neuroscience
  - Decision Making
  - Attitudes and Affect
  - Stereotyping and Prejudice
  - Communication and Language Processes
  - Interpersonal Relations and Group Processes
  - Political Psychology
  - Cultural Psychology
- PSYC 45200 Advanced Methods In Experimental Social Psychology plus two additional courses in advanced methods and statistics.
- 5. Finally, students are expected to take advanced courses and seminars in their area of interest.

## Psychology Courses

### PSYC 30401. Psycholinguistics: Language Processing. 100 Units.

This is an advanced introduction to the field of psycholinguistics. We will do an in-depth overview of both the empirical findings and the methodologies used on various topics in language comprehension/production, including areas of speech perception, lexical processing, syntactic parsing, and semantic/pragmatic processing. Models at both the computational and the mechanistic levels will also be examined.

Instructor(s): Ming Xiang Terms Offered: Autumn

Equivalent Course(s): LING 30401

## PSYC 32750. Advanced Topics in Chronobiology. 100 Units.

This seminar will explore the mechanisms by which circadian clocks influence the development and adult functioning of the brain to generate adaptive changes in behavior. In addition to being immersed in theoretical aspects of chronobiology, students will be trained in critical reading of primary research literature, the construction of testable hypotheses, and designing experiments to test these hypotheses. In addition to participating in weekly discussions, course members will survey the literature to determine how circadian issues affect how research is conducted across disciplines.

Instructor(s): B. Prendergast Terms Offered: Spring

Prerequisite(s): Students should have taken or currently be taking PSYC 21750.

#### PSYC 33000. Cultural Psychology. 100 Units.

There is a substantial portion of the psychological nature of human beings that is neither homogeneous nor fixed across time and space. At the heart of the discipline of cultural psychology is the tenet of psychological pluralism, which states that the study of "normal" psychology is the study of multiple psychologies and not just the study of a single or uniform fundamental psychology for all peoples of the world. Research findings in cultural psychology thus raise provocative questions about the integrity and value of alternative forms of subjectivity across cultural groups. In this course we analyze the concept of "culture" and examine ethnic and cross-cultural variations in mental functioning with special attention to the cultural psychology of emotions, self, moral judgment, categorization, and reasoning.

Instructor(s): R. Shweder Terms Offered: Autumn

Prerequisite(s): Undergraduates must be in third or fourth year.

Note(s): CHDV Distribution: B, C

Equivalent Course(s): CRES 21100, AMER 33000, CHDV 21000, PSYC 23000, ANTH 35110, GNSE 21001, CHDV 31000, GNSE 31000, ANTH 24320, EDSO 21100

### PSYC 33165. Multidisciplinary Perspectives on Morality. 100 Units.

The past decade saw an explosion of empirical research in the study of morality. Among the most exciting and novel findings and theories, evolutionary biologists and comparative psychologists have shown that moral cognition has evolved to facilitate cooperation and smooth social interactions, and that certain components of morality are present in non-human animals. Developmental psychologists came up with ingenious paradigms, demonstrating that the elements that underpin morality are in place much earlier than we thought, and clearly in place before children turn two. Social neuroscientists have begun to map brain circuits implicated in moral decision-making and identify the contribution of neuropetides to moral sensitivity. Changes in the balance of brain chemistry, or in connectivity between regions can cause changes in moral behavior. The lesson from all this new knowledge is clear: human moral behavior cannot be separated from human biology, its development, and past evolutionary history. As our understanding of the human brain improves, society at large, and justice and the law in particular, are and will be increasingly challenged. Discoveries in neuroscience will soon impact our legal system in ways that hopefully lead to a more cost-effective, humane and flexible system than we have today. The intent of this class is to provide an overview of the current research on the morality, and examine this topic from a range of relevant interdisciplinary perspectives.

Instructor(s): J. Decety Terms Offered: Winter Equivalent Course(s): PSYC 23165

#### PSYC 34060. Understanding Practical Wisdom. 100 Units.

Thinking about the nature of wisdom goes back to the Greek philosophers and the classical religious sages, but the concept of wisdom has changed in many ways over the history of thought. While wisdom has received less scholarly attention in modern times, it has recently re-emerged in popular discourse with a growing recognition of its potential importance for addressing complex issues in many domains. But what is wisdom? It's often used with a meaning more akin to "smart" or "clever." Is it just vast knowledge? This course will examine the nature of wisdom-how it has been defined in philosophy and psychological science, how its meaning has changed, and what its essential components might be. We will discuss how current philosophical and psychological theories conceptualize wisdom and consider whether, and how, wisdom can be studied scientifically; that is, can wisdom be measured and experimentally manipulated to illuminate its underlying mechanisms and understand its functions? Finally, we will explore how concepts of wisdom can be applied in business, education, medicine, the law, and in the course of our everyday lives. Readings will be drawn from a wide array of disciplines including philosophy, classics, history, psychology, behavioral economics, medicine, and public policy. The course will include lectures by philosophers and psychologists. This course is offered in association with the Chicago Moral Philosophy Project and the Good Life program (the Hyde Park Institute).

Instructor(s): H. Nusbaum, A. Henly Terms Offered: Spring

Prerequisite(s): PQ: Third- or fourth-year standing

Equivalent Course(s): PSYC 24060, CHDV 24050, BPRO 24050, RLST 24055

#### PSYC 34133. Neuroscience of Seeing. 100 Units.

This course focuses on the neural basis of vision, in the context of the following two questions: 1. How does the brain transform visual stimuli into neuronal responses? 2. How does the brain use visual information to guide behavior? The course covers signal transformation throughout the visual pathway, from retina to thalamus to cortex, and includes biophysical, anatomical, and computational studies of the visual system, psychophysics, and quantitative models of visual processing. This course is designed as an advanced neuroscience course for undergraduate and graduate students. The students are expected to have a general background in neurophysiology and neuroanatomy.

Instructor(s): W. Wei, J. Maunsell, M. Sherman, S. Shevell Terms Offered: Autumn

Prerequisite(s): NSCI 20111 or BIOS 24110 or consent of instructor

Equivalent Course(s): NSCI 22400, CPNS 34133, PSYC 24133, BIOS 24133, NURB 34133

## PSYC 34410. Computational Approaches to Cognitive Neuroscience. 100 Units.

This course is concerned with the relationship of the nervous system to higher order behaviors (e.g., perception, object recognition, action, attention, learning, memory, and decision making). Psychophysical, functional imaging, and electrophysiological methods are introduced. Mathematical and statistical methods (e.g. neural networks and algorithms for studying neural encoding in individual neurons and decoding in populations of neurons) are discussed. Weekly lab sections allow students to program cognitive neuroscientific experiments and simulations.

Instructor(s): N. Hatsopoulos Terms Offered: Winter

Prerequisite(s): For Neuroscience Majors: NSCI 20110, NSCI 20130, BIOS 26210, and knowledge using Matlab, or consent of instructor.

Equivalent Course(s): ORGB 34650, NSCI 23600, BIOS 24232, CPNS 33200

#### PSYC 35201. Communication in humans and non-humans. 100 Units.

This seminar will compare communication in humans and non-humans. Topics to be covered include the reliance of communication on more general cognitive processes, the learnability of communicative systems, referential intent, honest signaling, and deception. These issues will be explored through readings that cover recent work at the intersection of human and animal communication.

Instructor(s): J. Mateo Terms Offered: Winter Equivalent Course(s): CHDV 35201

#### PSYC 36210-36211. Mathematical Methods for Biological Sciences I-II.

#### PSYC 36210. Mathematical Methods for Biological Sciences I. 100 Units.

This course builds on the introduction to modeling course biology students take in the first year (BIOS 20151 or 152). It begins with a review of one-variable ordinary differential equations as models for biological processes changing with time, and proceeds to develop basic dynamical systems theory. Analytic skills include stability analysis, phase portraits, limit cycles, and bifurcations. Linear algebra concepts are introduced and developed, and Fourier methods are applied to data analysis. The methods are applied to diverse areas of biology, such as ecology, neuroscience, regulatory networks, and molecular structure. The students learn computations methods to implement the models in MATLAB. Instructor(s): D. Kondrashov Terms Offered: Autumn. L.

Prerequisite(s): BIOS 20151 or BIOS 20152 or equivalent quantitative experience by consent of instructor, and three quarters of a Biological Sciences Fundamentals sequence or consent of the instructor.

Equivalent Course(s): CPNS 31000, BIOS 26210

## PSYC 36211. Mathematical Methods for Biological Sciences II. 100 Units.

This course is a continuation of BIOS 26210. The topics start with optimization problems, such as nonlinear least squares fitting, principal component analysis and sequence alignment. Stochastic models are introduced, such as Markov chains, birth-death processes, and diffusion processes, with applications including hidden Markov models, tumor population modeling, and networks of chemical reactions. In computer labs, students learn optimization methods and stochastic algorithms, e.g., Markov Chain, Monte Carlo, and Gillespie algorithm. Students complete an independent project on a topic of their interest.

Instructor(s): D. Kondrashov Terms Offered: Winter. L.

Prerequisite(s): BIOS 26210 or equivalent.

Equivalent Course(s): CPNS 31100, BIOS 26211

#### PSYC 37250. Foundations of Neuroscience: Historical Perspective. 100 Units.

This course is a seminar-based study of the history of Neuroscience by close reading of the original papers. We will study the famous debates in Neuroscience: The Neuron Doctrine, the Soup vs. Sparks Debate, and the current debate on whether coding is an appropriate metaphor for brain function. We will also read important works in the history of behaviorism and cognitive maps. We will view the older debates in a modern context and reexamine whether they are as settled as they appear to be. We will read works by Cajal, Golgi, Berger, Adrian, Popper, Eccles, Loewi, Dale, Vogt, Pavlov, Lashley, Skinner, Tolman, Milner, O'Keefe, Hebb, Hubel and Wiesel, Kandel, among others, and more modern works as relevant. PQ: Background in Neuroscience or Biology helpful.

Instructor(s): L. Kay Terms Offered: Winter

Prerequisite(s): Open to students in all programs. Undergrads must be in at least the 3rd year of their studies.

## PSYC 37900. Experimental Design II. 100 Units.

Experimental Design II covers more complex ANOVA models than in the previous course, including split-plot (repeatedmeasures) designs and unbalanced designs. It also covers analysis of qualitative data, including logistic regression, multinomial logit models, and log linear models. An introduction to certain advanced techniques useful in the analysis of longitudinal data, such as hierarchical linear models (HLM), also is provided. For course description contact Psychology. Instructor(s): M. Berman Terms Offered: Autumn

## PSYC 38960. The Development of Communicative Competence. 100 Units.

This course examines the emergence of communicative skills in humans. We will focus on how children glean information about language structure and language use from their home environments. We will also discuss the proposed cognitive and evolutionary roots of communicative behaviors, with a focus on current gaps in our knowledge and possible pathways forward. The course will consider these issues from multiple perspectives including linguistics, psychology, and linguistic anthropology. We will also briefly cover a range of methods associated with these different areas of study. It is expected that, by the end of the course, you should be able to think and write critically about how human communication and human language are intertwined in both adults and children.

Instructor(s): M. Casillas Terms Offered: Spring

Note(s): UG: B, C, M; Grad: 5

Equivalent Course(s): LING 38951, CHDV 38950, EDSO 38950

#### PSYC 40107. Behavioral Neuroscience. 100 Units.

This course provides an introduction to neuroethology, examining brain activity relative to behaviors and organisms evaluated from an adaptive and evolutionary perspective. It starts with a brief introduction to classical ethology, and then develops a series of example animal model systems. Both invertebrate and vertebrate models are considered although there is a bias towards the latter. Many of these are "champion" species. There is a heavier demand for reading original data papers than typical in introductory graduate level courses. An integral part of the course is a series of assignments where you develop grant proposals describing novel science experiments in the animal models, thereby challenging your knowledge of the material and teaching aspects of scientific writing. In recent years there has been more computational material presented. The course is not available to undergraduates without prior approval of the instructor.

Instructor(s): D. Margoliash Terms Offered: Spring

Note(s): The course is not available to undergraduates without prior approval of the instructor. Equivalent Course(s): NURB 30107, CPNS 30107

## PSYC 40301. Topics in Psychology. 000 Units.

Current research in psychology. Instructor(s): D. Gallo Terms Offered: Autumn Spring Winter Note(s): Registration by consent only.

#### PSYC 40450-40451-40452. Topics in Cognition I-II-III.

Broadly speaking, this workshop will address fundamental topics in cognitive psychology such as attention, memory, learning, problem solving, and language. One unique aspect of this workshop is that we will not only explore topics central to the study of cognition, but we will also explore how the study of cognitive psychology can be used to enhance human potential and performance in a variety of contexts. These contexts range from an exploration of optimal teaching practices to enhance the acquisition of mathematical knowledge in the classroom, to issues regarding how individuals communicate best to foster the optimal exchange of information in, for instance, medical settings, to the optimal strategies older adults can use to help stave off the deleterious effects of aging on cognitive functioning and the performance of everyday activities.

## PSYC 40450. Topics in Cognition I. 100 Units.

Discussion of current research in psychology. Instructor(s): M. Rosenberg Terms Offered: Autumn

### PSYC 40451. Topics in Cognition II. 100 Units.

Discussion of current research in psychology. Instructor(s): M. Rosenberg Terms Offered: Winter

#### PSYC 40452. Topics in Cognition III. 100 Units. Discussion of current research in psychology.

Instructor(s): M. Rosenberg Terms Offered: Spring

### PSYC 40460. Computation and the Identification of Cultural Patterns. 100 Units.

Culture is increasingly becoming digital, making it more and more necessary for those in both academia and industry to use computational strategies to effectively identify, understand, and (in the case of industry) capitalize on emerging cultural patterns. In this course, students will explore interdisciplinary approaches for defining and mobilizing the concept of "culture" in their computational analyses, drawing on relevant literature from the fields of Anthropology, Psychology and Sociology. Additionally, they will receive hands-on experience applying computational approaches to identify and analyze a wide range of cultural patterns using the Python programming language. For instance, students will learn to identify emerging social movements using social media data, predict the next fashion trends, and even decipher ancient symbols using archaeological databases.

Instructor(s): Jonathan Clindaniel Terms Offered: Autumn

Prerequisite(s): No previous coding experience required. A Python boot camp will be held at the beginning of the quarter to teach the coding skills necessary to succeed in the course. Open to Advanced Undergraduates with Instructor Permission. Equivalent Course(s): MAPS 40401, MACS 40400, CHDV 40404

#### PSYC 40710. Early Childhood: Human Capital Development and Public Policy. 100 Units.

The goal of this course is to introduce students to the literature on early child development and explore how an understanding of core developmental concepts can inform social policies. Our substantive foci will be on early childhood poverty, the role of parenting and the home environment in shaping children's development, and the evidence base for intervention in early childhood for economically disadvantaged children. The course will cover evidence from neuroscience, psychology, economics, sociology, and public policy as it bears on these questions. In particular, we will explore how the principles of early childhood development can guide the design of policies and practices that enhance the healthy development of young children, particularly for those living in adverse circumstances, and thereby build a strong foundation for promoting equality of opportunity, reducing social class disparities in life outcomes, building human capital, fostering economic prosperity, and generating positive social change. In doing so, we will discuss the evidence on whether the contexts of children's development are amenable to public policy intervention and the costs and benefits of different policy approaches.

Instructor(s): Kalil, A Terms Offered: Winter Equivalent Course(s): CHDV 40770, PPHA 40700

## PSYC 40851-40852-40853. Topics in Developmental Psychology I-II-III.

Brown-bag discussion of current research in psychology.

#### PSYC 40851. Topics in Developmental Psychology I. 100 Units.

Brown-bag discussion of current research in psychology. Instructor(s): A. Shaw Terms Offered: Autumn

## PSYC 40852. Topics in Developmental Psychology II. 100 Units.

Brown-bag discussion of current research in psychology. Instructor(s): K. Kinzler Terms Offered: Winter Note(s): CHDV Distribution: 2\*

## PSYC 40853. Topics in Dev. Psy. 100 Units.

Brown-bag discussion of current research in psychology. Instructor(s): TBD Terms Offered: Spring Equivalent Course(s): CHDV 40853

#### PSYC 41115. Social Cognitive Development. 100 Units.

Human beings inhabit a very complex social world and our mind has structures that enable us to navigate this complexity. Where do these concerns come from? Are we blank slates that passively absorb cues from our environment? If not, what early competencies enable us to learn? How do these competencies interact with our culture? To answer these questions, this class will cover literature from infants, toddlers, children, and adults to give a rich picture of what changes and remains constant across development. We will cover topics such as children's understanding of intentions, theory of mind, communication, ownership, morality, and inter-group attitudes. Instructor(s): A. Shaw Terms Offered: Spring

PSYC 41210. Psychophysiology: Methods, Concepts, and Applications. 100 Units.

This course will provide an overview of the principles, theory, and applications of psychophysiological research. The course has two primary goals: (1) to provide an overview of major psychophysiological approaches and measures through discussion of contemporary research; and (2) to provide an introduction to theory and research in major areas of human psychophysiology with specific applications to the study of cognition, affect, and health.

Instructor(s): G. Norman Terms Offered: Winter

#### PSYC 41660. Current Controversies in Cognition. 100 Units.

Nature vs. nurture, conscious and unconscious processing, automaticity and controlled processing, separate or integrated STM and LTM, modularity, and bottom-up vs. top-down processing are some of the controversies that continue to be discussed in cognition research. We will read and discuss theory and evidence and consider how such controversies might be resolved empirically and theoretically.

Instructor(s): H. Nusbaum Terms Offered: Spring

## PSYC 42100. Trial Research Seminar. 100 Units.

PSYC 42100 is required of first-year Psychology graduate students The purpose of this seminar is to assist students in formulating their trial research project.

Instructor(s): S. London Terms Offered: Spring

## PSYC 42350. Advanced Topics in Human Neuroimaging. 100 Units.

This course will discuss advanced topics in human neuroimaging, reviewing recent papers using state-of-the-art methods, including multi-voxel pattern analysis, Big Data, connectivity analyses, and inter-subject correlations. We will discuss how these new methods fit into the current landscape of human neuroscience and support new theoretical ideas, and also conduct tutorials so students can use these methods in their own analyses.

Instructor(s): W. Bainbridge, M. Rosenberg Terms Offered: Autumn

Prerequisite(s): The course will be geared towards PhD students, but open to MAPSS students who receive instructor permission to enroll.

#### PSYC 42570. Integrating the Real World into Perception and Memory. 100 Units.

This seminar will cover the evolution of experimental paradigms in the psychology of perception and memory, from more artificial stimuli to more naturalistic stimuli. The course will focus on readings of papers utilizing new innovations in psychology to make research better mirror the real world. Topics will include virtual reality, movie-watching in neuroimaging, lifelogging, interactive fMRI, gesture recording, and multi-modal experiments to understand perception and memory. Discussions will also include broader meta-discussions about the pros and cons of these more complex, real-world paradigms.

Instructor(s): W. Bainbridge Terms Offered: Autumn

## PSYC 42650. Working Memory. 100 Units.

This course will cover basic working memory theory, broadly defined, with a focus on neural models.

Instructor(s): E. Awh Terms Offered: Spring

Note(s): Please contact instructor for permission to register.

## PSYC 42950. Memory and Decision Making. 100 Units.

What are the cognitive and neural mechanisms by which learning, memory, and decision making interact? In this seminar, we will review current theories that bridge learning and decision making, consider the strengths and weaknesses of the cognitive neuroscience tools used to test these theories, and discuss how memories of the past enable decisions for the future. Instructor(s): A. Bakkour Terms Offered: Autumn Note(s): Consent only.

Note(s): Consent only

## PSYC 43130. Stress and the Social Brain. 100 Units.

This course explores the topic of social stress and its influence on behavior and neurobiology. The course will provide indepth coverage of the psychophysiology of the stress response and how it is modulated across social contexts. The material in the course will be presented in a seminar-style format. The primary goal of the course is to provide students with a high-level understanding of the complexities associated with contemporary stress research from the perspective of social neuroscience and psychophysiology.

Instructor(s): G. Norman Terms Offered: Autumn

## PSYC 43780. Basics of conducting EEG and ERP research. 100 Units.

EEG recordings are a popular and long-standing approach to gather information about human brain activity that are used to address questions in many areas of Psychology. In this seminar, we will cover many of the basics of conducting human EEG research, including basic principles of recordings (e.g., detection and removal of artifacts, baseline correction, filtering and averaging) along with basic analytical approaches to measuring EEG (e.g., calculating and measuring ERPs; time-frequency analyses, etc). We will also cover research that has utilized EEG signals from multiple research domains, with the aim of giving the student exposure to a wide swath of well characterized neural tools from the existing literature. Throughout the course, we will emphasize how best to design experiments that can yield robust and interpretable data and avoid the common pitfalls in using this powerful approach.

Instructor(s): E. Vogel Terms Offered: Spring

#### PSYC 43830. Advanced Topics in Working Memory. 100 Units.

Seminar on contemporary topics in working memory research. Instructor(s): E. Vogel Terms Offered: Autumn

Note(s): By instructor approval.

#### PSYC 45300. When Cultures Collide: Multiculturalism in Liberal Democracies. 100 Units.

Coming to terms with diversity in an increasingly multicultural world has become one of the most pressing public policy projects for liberal democracies in the early 21st century. One way to come to terms with diversity is to try to understand the scope and limits of toleration for variety at different national sites where immigration from foreign lands has complicated the cultural landscape. This seminar examines a series of legal and moral questions about the proper response to norm conflict between mainstream populations and cultural minority groups (including old and new immigrants), with special reference to court cases that have arisen in the recent history of the United States.

Instructor(s): R. Shweder Terms Offered: Autumn

Equivalent Course(s): ANTH 45600, KNOW 45699, HMRT 35600, CHDV 45699, GNSE 45600

## PSYC 46050. Principles of Data Science and Engineering for Laboratory Research. 100 Units.

The quantity of data gathered from laboratory experiments is constantly increasing. This course will explore the latest concepts, techniques and best-practice to create efficient data analysis pipelines. We will focus on the python ecosystem. By the end of the course, you are expected to be able to apply appropriate tools to streamline your own data analysis. Instructor(s): J. Yu Terms Offered: Winter

Prerequisite(s): Familiarity with coding in python.

#### PSYC 46662. Genes and Behavior. 100 Units.

There are complex interactions between the genome and behavior. This course will examine how behavior can be understood by investigating the sequence and structure of genes, especially those expressed in the brain. It will consider behaviors in several species (including human), and present various molecular, genetic, and genomic approaches used to uncover how genes contribute to behavior and how behavior alters the genome. Seminar format, with student-led sessions based on primary literature readings, with class time to collectively clarify questions, delve deeper into mechanisms, and integrate to consider broader implications.

Instructor(s): S. London Terms Offered: Winter

Prerequisite(s): PQ: Some familiarity with molecular biology and/or genomes is recommended.

#### PSYC 47001-47002. Language in Culture I-II.

This two-quarter course presents the major issues in linguistics of anthropological interest. These courses must be taken in sequence.

#### PSYC 47001. Language In Culture I. 100 Units.

Among topics discussed in the first half of the sequence are the formal structure of semiotic systems, the ethnographically crucial incorporation of linguistic forms into cultural systems, and the methods for empirical investigation of "functional" semiotic structure and history. Instructor(s): Constantine Nakassis Terms Offered: Autumn Prerequisite(s): Constant of instructor for Undergrads Note(s): CHDV Distribution: 5\* Equivalent Course(s): CHDV 37201, ANTH 37201, LING 31100

#### PSYC 47002. Language in Culture II. 100 Units.

The second half of the sequence takes up basic concepts in sociolinguistics and their critique. Instructor(s): Susan Gal Terms Offered: Winter. Winter 2021 Prerequisite(s): Language in Culture-1 Note(s): CHDV Distribution: 5\* Equivalent Course(s): ANTH 37202, LING 31200, CHDV 37202

#### PSYC 47500. Survey Questionnaire Design. 100 Units.

The questionnaire has played a critical role in gathering data used to assist in making public policy, evaluating social programs, and testing theories about social behavior (among other uses). This course offers a systematic way to construct and evaluate questionnaires. We will earn to think about survey questions from the perspective of the respondent and in terms of cognitive and social tasks that underlie responding. We will examine the impact of questions on data quality and will review past and recent methodological research on questionnaire development. The course will help students to tell the difference between better and worse types of survey questions, find and evaluate existing questions on different topics, and construct and test questionnaires for their own needs. Prerequisites: Graduate standing (no undergraduate standing). Students enrolled in this class are expected to have completed at least one course on research methods. Some background in psychology is helpful, but it is not required.

Instructor(s): Bautista, R Terms Offered: Spring

Equivalent Course(s): PPHA 41800, SSAD 57500

### PSYC 48000. Proseminar in Psychology. 100 Units.

Required of first-year Department of Psychology graduate students. Department of Psychology faculty members present and discuss their research. This introduces new students to the range of research areas in the department. Instructor(s): H. Nusbaum Terms Offered: Autumn

#### PSYC 48001-48002-48003. Mind and Biology Proseminar I-II-III.

Seminar series at the Institute for Mind and Biology meets three to four times per quarter. Sign up for three quarters; receive credit at the end of Spring Quarter.

#### PSYC 48001. Mind and Biology Proseminar I. 000 Units.

Students receive credit in spring quarter after attending 3 quarters of seminars. Instructor(s): E. Awh Terms Offered: Autumn Equivalent Course(s): CHDV 48001

#### PSYC 48002. Mind and Biology Proseminar 2. 000 Units.

Seminar series at the Institute for Mind and Biology meets three to four times per quarter. Sign up for three quarters; receive credit at the end of Spring Quarter. Instructor(s): E. Awh Terms Offered: Winter Equivalent Course(s): CHDV 48002

## PSYC 48003. Mind and Biology Proseminar 3. 100 Units.

Seminar series at the Institute for Mind and Biology meets three to four times per quarter. Sign up for three quarters; receive credit at the end of Spring Quarter. Instructor(s): E. Awh Terms Offered: Spring Equivalent Course(s): CHDV 48003

#### PSYC 49700. Readings: Psychology. 100 Units.

#### PSYC 49800. Research: Psychology. 300.00 Units.

**PSYC 70000. Advanced Study: Psychology. 300.00 Units.** Advanced Study: Psychology



## The John U. Nef Committee on Social Thought

Department Website: http://socialthought.uchicago.edu

Robert Pippin

Professors

Chair

- Lorraine Daston
- Wendy Doniger
- Joel Isaac
- Hans Joas
- Gabriel Lear
- Jonathan Lear
- Jean Luc Marion
- Heinrich Meier
- Glenn W. Most
- David Nirenberg
- Thomas Pavel
- Mark Payne
- Robert B. Pippin
- Andrei Pop
- Haun Saussy
- Laura Slatkin
- Nathan Tarcov
- Rosanna Warren
- David Wellbery

Emeriti

- Leon Kass
- Joel Kraemer
- Ralph Lerner
- James M. Redfield
- David Tracy

The John U. Nef Committee on Social Thought was established as a degree granting body in 1941 by the historian John U. Nef (1899-1988), with the assistance of the economist Frank Knight, the anthropologist Robert Redfield, and Robert M. Hutchins, then President of the University. The Committee is a group of diverse scholars sharing a common concern for the unity of the human sciences. Their premises were that the serious study of any academic topic, or of any philosophical or literary work, is best prepared for by a wide and deep acquaintance with the fundamental issues presupposed in all such studies, that students should learn about these issues by acquainting themselves with a select number of classic ancient and modern texts in an inter-disciplinary atmosphere, and should only then concentrate on a specific dissertation topic. It accepts qualified graduate students seeking to pursue their particular studies within this broader context, and aims both to teach precision of scholarship and to foster awareness of the permanent questions at the origin of all learned inquiry.

The primary themes of the Committee's intellectual life have continued to be literature, religion, philosophy, politics, history, art and society. The Committee differs from the normal department in that it has no specific subject matter and is organized neither in terms of a single intellectual discipline nor around any specific interdisciplinary focus. It exists to bring together scholars in a variety of fields sharing a concern with basic and trans-disciplinary issues, and to enable them to work in close intellectual association with other like-minded graduate students seeking to pursue their particular studies in this broader context. Inevitably, the faculty of the Committee does not encompass within itself the full range of intellectual disciplines necessary for these studies, and the fields represented by the faculty have changed substantially during the Committee's history. Students apply to work with the faculty who are here at any particular time and, where appropriate, with other faculty at the University of Chicago. Although it offers a variety of courses, seminars, and tutorials, it does not require specific courses. Rather, students, with the advice of Committee faculty, discover the points at which study in established disciplines can shape and strengthen their research, and they often work closely with members of other departments. Through its several lecture and seminar series, the Committee also seeks to draw on the intellectual world beyond the University.

Students admitted to the Committee work toward the Ph.D. There are three principal requirements for this degree: the fundamentals examination, the foreign language examination and the dissertation. Study for the fundamental exam centers on twelve to fifteen books, selected by the student in consultation with the faculty. Each student is free to draw from the

widest range of works of imaginative literature, religious thought, philosophy, history, political thought, and social theory and ranging in date from classical times to the twentieth century. Non-Western books may also be included. Study of these fundamental works is intended to help students relate their specialized concerns to the broad themes of the Committee's intellectual life. Some of the student's books will be studied first in formal courses offered by faculty, though books may also be prepared through reading courses, tutorials, or independent study.

Preparation for the fundamentals examination generally occupies the first two or three years of a student's program, together with appropriate philological, statistical, and other disciplinary training.

After successful completion of the fundamentals examination, the student writes a dissertation under faculty supervision on an important topic using appropriately specialized skills. A Committee on Social Thought dissertation is expected to combine exact scholarship with broad cultural understanding and literary merit. In lieu of an oral defense, a public lecture on an aspect of their research of general interest to the scholarly community is to be given.

As a partial guide, and to suggest the variety of possible programs, there follows a list of titles of some of the dissertations accepted by the Committee since 1994:

- Heidegger's Polemos: From Being to Politics
- Nature's Artistry: Goethe's Science and Die Wahlverwandtschaften
- Nietzsche's Schopenhauer: The Peak of Modernity and the Problem of Affirmation
- Feminism and Liberalism: The Problem of Equality
- A Hesitant Dionysos: Nietzsche and the Revelry of Intuition
- Conrad's Case Against Thinking
- Reading the Republic as Plato's Own Apology
- Cartesian Theodicy: Descartes Quest for Certitude
- Plato's Gorgias and the Power of Speech and Reason in Politics
- World Government and the Tension between Reason and Faith in
- Dante Alighieri's Monarchia
- A House Divided: The Tragedy of Agamemnon
- Eros and Ambition in Greek Political Thought
- Natural Ends and the Savage Pattern: The Unity of Rousseau's Thought
- Revisited
- A Sense of Place. Reading Rousseau: The Idea of Natural Freedom
- Churchill's Military Histories: A Rhetorical Study
- A Nation of Agents: The Making of the American Social Character
- The Problem of Religion in Spinoza's Tractatus Theologico Politicus
- A Great Arrangement of Mankind: Edmund Burke's Principles and Practice of Statesmanship
- The Dance of the Muses
- Tocqueville Unveiled: A Historian and his Sources in L Ancien Régime et la Révolution
- The Search for Biological Causes of Mental Illness
- War, Politics, and Writing in Machiavelli's Art of War
- Plato's Laws on the Roots and Foundation of the Family
- The Philosophy of Friendship: Aristotle and the Classical Tradition on Friendship and Self Love
- Regions of Sorrow: Spaces of Anxiety and Messianic Tome in Hannah Arendt and W.H. Auden
- Converting the Saints: An Investigation of Religious Conflict using a Study of Protestant Missionary Methods in an Early 20th Century Engagement with Mormonism
- The Significance of Art in Kant's Critique of Judgment
- Historicism and the Theory of the Avant Garde
- Human Freedom in the Philosophy of Pierre Gassendi
- Taking Her Seriously: Penelope and the Plot of Homer's Odyssey
- Karna in the Mahabharata

 Hegel on Mind, Action, and Social Life: The Theory of Geist as a Theory of Explanation. Liberalism in the Shadow of Totalitarianism: The Problem of Authority and Values Since World War Two

- Nietzsche's Problem of Socrates and Plato's Political Psychology
- Tocqueville's New Political Science: A Critical Assessment of Montesquieu's Vision of a Liberal Modernity
- Magnanimity and Modernity: Self Love in the Scottish Enlightenment
- Hegel's Conscience: Radical Subjectivity and Rational Institutions
- Religious Zeal, Political Faction and the Corruption of Morals: Adam Smith and the Limits of Enlightenment
- This Distracted Globe: Hamlet and the Misgivings of Early Modern Memory

- Teaching the Contemplative Life: The Psychagogical Role of the Language of Theoria in Plato and Aristotle
- The Allegory of the Island: Solitude, Isolation, and Individualism in the Writings of Jean Jacques Rousseau
- The Convergence of Homer's Odyssey and Joyce's Ulysses
- The Curiosity of the Idle Reader: Self Consciousness in Renaissance Epic
- Bacon on Virtue: The Moral Philosophy of Nature's Conqueror
- Picturing the Path: The Visual Rhetoric of Barabudur
- Collecting Objects/Excluding People: Chinese Subjects and the American Art Discourse 1870-1900
- From Religionskrieg to Religionsgesprach: The Theological Path of Boden's Colloquium Heptaplomeres
- The Problem of Autonomy in the Thought of Montaigne
- The Virtue of the Soul and the Limits of Human Wisdom: The Search for SÔPHROSUNÊ in Plato's Charmides
- Nietzsche's "Fantastic Commentary": On the Problem of Self-Knowledge
- Erotic Uncertainty: Towards a Poetic Psychology of Literary Creativity
- Cruelty: On the Limits of Humanity
- Hamletian Romanticism: Social Critique and Literary Performance from Wordsworth to Trollope
- Hamlet's Arab Journey: Adventures in Political Culture and Drama 1952-2002
- Acquiring "Feelings that do not Err": Moral Deliberation and the Sympathetic Point of View in the Ethics of Dai
  Zhen
- The Contest of Regimes and the Problem of Justice: Political Lessons from Aristotle's Politics
- Socrates and the Second Person: The Craft of Platonic Dialogue
- In the Grip of the Future: The Tragic Experience of Time
- Thucydides on the Political Soul: Pericles, Love of Glory, and Freedom
- Connecting Agency and Morality in Kant's Moral Theory
- Tocqueville and the Question of the Nation
- Pierre Bayle's "Machiavellianism"
- The Burial of Hektor: The Emergence of the Spiritual World of the Polis in the Iliad
- Hegel's Defense of Moral Responsibility
- Dostoevsky, Madness, and Religious Fervor: Reason and its Adversaries
- The Uses of Boredom
- Two Loves, Two Cities: Intellectus and Voluntas in Augustine's Political Thought
- Power and Goodness: Leibniz, Locke and Modern Philosophy
- Soren Kierkegaard and the Very Idea of Advance Beyond Socrates
- Between City and Empire: Political Ambition and Political Form in Plutarch's Parallel Lives
- Gluttony and Philosophical Moderation in Plato's Republic
- · Plato's Immoralists and their Attachment to Justice: A Look at Thrasymachus and Callicles
- The Great Law of Change: Edmund Burke, Thomas Paine, and the Meaning of the Past in a Democratic Age
- Devil's Advocate: Politics and Morality in the Work of Carl Schmitt
- Relation without Relation: Emily Dickinson Maurice Blanchot
- Perfecting Adam: The Perils of Innocence in the Modern Novel
- Stubborn Against the Fact: Literary Ideals, Philosophy and Criticism
- One Man Show: Poiesis and Genesis in the *Iliad* and *Odyssey*
- Political Theology in Eric Voegelin's Philosophy of History
- The Ancient Quarrel Unsettled: Plato and the Erotics of Tragic Poetry
- Heroic Action and Erotic Desire in Sidney, Spenser, and Shakespeare
- Dostoevsky and Suicide: A Study of the Major Characters
- The Aesthetics of Ambivalence Pirandello, Schopenhauer, and the Transformation of the European Social Imaginary
- Desire and Democracy Spinoza and the Politics of Affect
- The Multiplicity of Scripture The Confluence of Textual Traditions in the Making of the Antwerp Polyglot Bible
   (1568-1573)
- Intelligence Incarnate: The Logic of Recognition in Hegel's Phenomenology of Spirit
- King Lear and its Folktale Analogues
- Can There be Philosopher-Kings in a Liberal Polity? A Reinterpretation and Reappropriation of the Ideal Theory in Plato's Republic
- Intelligence Incarnate: The Logic of Recognition in Hegel's Phenomenology of Spirit

- King Lear and its Folktale Analogues
- Can There be Philosopher-Kings in a Liberal Polity? A Reinterpretation and Reappropriation of the Ideal Theory
  in Plato's Republic
- Towards an Ethical Literature: Character Narration and Extended Subjectivity in the work of Robert Musil
- Modes of Valuation in Early Greek Poetry
- God in the Years of Fury: Theodicy and Anti-Theodicy in the Holocaust Writings of Rabbi Kalonymus Kalman Shapira
- Rousseau's Natural Man: Emile and Politics
- Existence and Temporality in Spinoza
- Explorations in Elegiac Space: Schiller, Nietzsche, Rilke
- Language, Necessity, and Human Nature in Thucydides' History
- · Speculation and Civilization in the Social Philosophy of Alfred North Whitehead
- · Caught between City, Empire, and Religion: Alfarabi's Concept of the Umma
- Elizabeth Anscombe's Wittgensteinian Third Way in Philosophy of Mind: A Thomist Critique
- Different Therapies: David Foster Wallace's Philosophical Fiction
- · Freedom, Feeling and Character: The Unity of Reason and Sensibility in Kant's Practical Philosophy
- Paul Claudel's 'Cinq Grandes Odes:' A Translation and Commentary
- Political Freedom Between Arendt and Foucault
- Technocratic Evolution: Experimental Naturalism and American Biopolitics around 1900
- · Kierkegaard on Decision and Married Love

#### Areas of Study

Work with the Committee is not limited as to subject matter. Any serious program of study, based on the Fundamentals Examination, culminating in a scholarly doctoral dissertation, and requiring a framework wider than that of a specialized department, may be appropriate. In practice, however, the Committee is unwilling to accept a student for whom it is unable to provide competent guidance in some special field of interest, either from its own ranks or with the help of other members of the University.

## Admission

Students in the Committee have unusual scope for independent study, which means that successful work in Social Thought requires mature judgment and considerable individual initiative. Naturally, the Committee wishes to be reasonably confident of an entering student's ability to make the most of the opportunities the Committee offers and to complete the program of study. Hence, we request that the personal statement required by the University application should take the form of a letter to the Committee which addresses the following questions: What intellectual interests, concerns, and aspirations lead you to undertake further study and why do you want to pursue them with the Committee? What kind of work do you propose to do here? (If you can, include your intentions for the Fundamentals requirement, further language study, and dissertation research.) How has your education to date prepared you? In addition, you should include a sample of your best written work, preferably relevant to the kind of work you propose to do at the Committee, though you may also include a short sample of fiction or poetry in addition. Should we consider the evidence submitted to be insufficient, we may ask you to add to it. Applicants are also required to take the Graduate Record Examination.

## How To Apply

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: https://apply-ssd.uchicago.edu/apply/.

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

Foreign students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

For additional information about the Social Thought program, please call 773-702-8410.

## Courses

The department website offers descriptions of graduate courses scheduled for the current academic year: http:// socialthought.uchicago.edu/page/social-thought-courses-descriptions (http://socialthought.uchicago.edu/page/social-thoughtcourses-descriptions/). Or you may email the Committee directly com-soc-tht@uchicago.edu and request a copy of the current course schedule.

## Social Thought Courses

## SCTH 30103. Tractarian Themes in the History of Philosophy. 100 Units.

The course will take up a number of themes that are central to Wittgenstein's Tractatus as they arise in the history of philosophical thought about logic-themes that arise out of questions such as the following: What is the status of the basic law(s) of logic? Is it possible to draw a limit to logical thought? What is the status of the reflecting subject of logical inquiry? What is the relation between the logical and the psychological? What, if anything, is the relation between the following two inquiries into forms of unity: "What is the unity of the judging subject?" What is the various provide the formality of logic? How, and how deeply, does language matter to logic? Topics will include various aspects of Aristotle's logical theory and metaphysics, Descartes's Doctrine of the Creation of Eternal Truth, Kant on Pure General and Transcendental Logic, Frege on the nature of a proper Begriffsschrift and what it takes to understand what that is, and early Wittgenstein's inheritance and treatment of all of the above. Secondary readings will be from Jan Lukasiewicz, John MacFarlane, Clinton Tolley, Sebastian Roedl, Matt Boyle, John McDowell, Elizabeth Anscombe, Cora Diamond, Peter Geach, Matthias Haase, Thomas Ricketts, and Peter Sullivan. (III) Instructor(s): J. Conant, I. Kimhi Terms Offered: Winter

Equivalent Course(s): PHIL 30117, PHIL 20117

## SCTH 30104. Introduction to Metaphysics: Existence, Truth, Activity. 100 Units.

Equivalent Course(s): PHIL 33007, PHIL 23007

#### SCTH 30105. Introduction to Spinoza's Ethics. 100 Units.

As we read this work we will be concerned with its place in history of philosophy and we shall engage with some of its contemporary readers.

Equivalent Course(s): PHIL 37202, PHIL 27202

### SCTH 30108. The Children of Parmenides. 100 Units.

Plato honors Parmenides with the title "father Parmenides", presumably for being the founder of philosophy as the "logical" study of being and thinking. In this course we shall discuss the struggle of ancient and modern philosophers to come to terms with this powerful heritage -- in particular, we shall focus on the elaboration, reception and criticism of Parmenides' theses that being and thinking are the same, and that talk of negation or falsity is incoherent or empty. Among the philosophers whose work we shall discuss are Plato, Aristotle, Frege, Russell, and Wittgenstein.

Equivalent Course(s): PHIL 31113, PHIL 21113

## SCTH 30109. The Practical-Theoretical Difference' 100 Units.

Equivalent Course(s): PHIL 37504, PHIL 27504

#### SCTH 30215. The End of Life. 100 Units.

Aristotle taught that happiness, or eudaimonia, is the end of human life, in the sense that it is what we should strive for. But, in another sense, death is the end of life. This course will explore how these two "ends" - happiness and death - are related to each other. But it will do so in the context of a wider set of concerns. For, it is not only our individual lives that come to an end: ways of life, cultural traditions, civilizations and epochs of human history end. We now live with the fear that human life on earth might end. How are we to think about, and live well in relation to, ends such as these? Readings from Aristotle, Marx, Engels, Freud, Heidegger, and Arendt.

Instructor(s): A. Ford; J. Lear Terms Offered: Spring Prerequisite(s): For Graduates: By permission of instructor. Equivalent Course(s): PHIL 20215, PHIL 30215

SCTH 30924. Science, Modernity, and Anti-Modernity. 100 Units.

Equivalent Course(s): CHSS 30924, HIST 44905

## SCTH 30925. The Humanities as a Way of Knowing. 100 Units.

Despite intertwined histories and many shared practices, the contemporary humanities and sciences stand in relationships of contrast and opposition to one another. The perceived fissure between the "Two Cultures" has been deepened by the fact that the bulk of all history and philosophy of science has been devoted to the natural sciences. This seminar addresses the history and epistemology of what in the nineteenth century came to be called the "sciences" and the "humanities" since the Renaissance from an integrated perspective. The historical sources will focus on shared practices in, among others, philology, natural history, astronomy, and history. The philosophical source will develop an epistemology of the humanities: how humanists know what they know.

Equivalent Course(s): HIST 39517, KNOW 40303, PHIL 30925, PHIL 20925, CLAS 37316, HIST 29517, CHSS 30925

## SCTH 30927. Knowledge as a Platter: Comparative Perspectives on Knowledge Texts in the Ancient World. 100 Units.

In various ancient cultures, sages created the new ways of systematizing what was known in fields as diverse as medicine, politics, sex, dreams, and mathematics. These texts did more than present what was known; they exemplified what it means to know - and also why reflective, systematic knowledge should be valued more highly than the knowledge gained from common sense or experience. Drawing on texts from Ancient India, Greece, Rome, and the Near East, this course will explore these early templates for the highest form of knowledge and compare their ways of creating fields of inquiry: the first disciplines. Texts include the Arthashastra, the Hippocratic corpus, Deuteronomy, the Kama Sutra, and Aristotle's Parva naturalia.

Equivalent Course(s): KNOW 31415, SALC 30927, CHSS 30927, HREL 30927

#### SCTH 30928. Thinking the Present through the Past: Classic Works of History since 1750. 100 Units.

As proudly empirical as the sciences, as interpretive as the humanities, and as analytical as the social sciences, history as the pursuit of knowledge about the past resists classification. Because all history is written through the lens of the present, most works of history cease to be read after a generation, especially during the modern period, as the pace of change accelerated. In this seminar we will read some of the exceptions, including works by Kant, Tocqueville, Michelet, cCassirer, Huizinga, Lovejoy, and Frances Yates, to understand how powerful vision of the past can transcend its own present. Instructor(s): Lorraine Daston Terms Offered: Spring. This course will be taught spring 2019. Prerequisite(s): Seminar - primarily graduate students; all students require the permission of the instructor.

Equivalent Course(s): HIST 45002, CHSS 30928, KNOW 30928

#### SCTH 30929. The Strange World of Francis Bacon. 100 Units.

Attention confers value - aesthetic, moral, epistemic, and now monetary value - upon whatever it singles out from the stream of experience. This seminar explores the long history of the theories and practices of attention in philosophy, religion, science, psychology, and the arts. Guiding questions include what objects are deemed worthy of attention and why, extreme states of attention such as religious contemplation or scientific observation, the schooling of attention through practices such as reading and web-surfing, theories of how attention works, and pathologies of attention.

Instructor(s): Lorraine Daston Terms Offered: Spring. Course will be taught spring 2021

Note(s): Instructor's consent required.

Equivalent Course(s): CHSS 30929, HIST 45003

### SCTH 31210. The Iliad. 100 Units.

In this course we will read the ILIAD in translation, supplemented by selections from the ODYSSEY and other texts from the archaic period, including the Epic Cycle fragments and the Hesiodic CATALOGUE OF WOMEN. We will also make some turns toward recent Iliadic ventures in English: not least Christopher Logue's WAR MUSIC and Alice Oswald's MEMORIAL. "The poem of force" according to Simone Weil, the ILIAD is also the poem of marriage, homosociality/ the "Mannerbund", and exchange. Among our concerns will be: the poetics of traditionality; the political economy of epic; the ILIAD's construction of social order; the uses of reciprocity; gender in the Homeric poems. Although no knowledge of Greek s required for this course, there will be assignment options for those who wish to do reading in Greek. Instructor(s): Laura Slatkin Terms Offered: Spring. course will be taught spring 2020

Prerequisite(s): Requirements: weekly readings; response paper for each class meeting; final paper.

Equivalent Course(s): FNDL 21214, CLAS 44300

#### SCTH 31221. Antigone. 100 Units.

Equivalent Course(s): GREK 45808, CMLT 31221

#### SCTH 31223. Homer's Odyssey: Estrangement and Homecoming' 100 Units.

One of the two foundational epics of so-called Western Culture, the Odyssey features a wily hero whose journeys are extraordinary and whose longing for home is unbounded. The Odyssey offers a complex meditation on brotherhood, bestiality, sexuality, kinship, and power; it is the great epic of cross-cultural encounter, in all its seductive and violent aspects, as well as the great poem of marriage. An adventure in nostos (homecoming), the Odyssey shows us the pleasures and dangers of voyaging among strangers. Constantly exploring the boundaries between the civilized and the savage, the poem offers as well a political critique of many ancient institutions, not least the family patriarchy, hospitality customs, and the band-of-brothers so central to epic ideology. And as a masterwork of narrative art, the Odysseyasks us to consider the relation of fiction to "truth." We will explore these and other matters in the Odyssey, and may make a concluding foray into contemporary re-workings of Odyssean themes and characters.

Equivalent Course(s): CLAS 33616, FNDL 21223

## SCTH 31224. Aeschylus' Oresteia: Drama and Democracy. 100 Units.

The Oresteia: Aeschylus's prizewinning trilogy explores (among other things) the fortunes of the house of Atreus, the making of the polis, matters of state, gender trouble, questions of kinship, revenge and its impasses, institutions of justice. Ancient Greek theater in the early-mid 5th c. BCE both maps and reckons with the constitutive tensions in the polis between residual (but still influential) aristocratic norms and practices and the newly dominant (but still developing democratic ethos and ideals - its practices institutionalized in the assembly, the magistracies, and the courts. Aeschylus's Oresteia both represents and contributes to that debate (in antiquity and in current scholarship). This trilogy helps us understand crucial aspects of the society that produced it but also invites us to reflect on the ways ancient literature informs how we think about ourselves and our predicaments now - political, familial, existential. And the Oresteia further invites us to think about the uses and possibilities of theater, then and now. We will supplement our reading of the play with commentary grounded in literary interpretation and cultural poetics, as well as philosophy and political theory. Although no knowledge of Greek is required for this course, there will be assignment options for those who wish to do reading in Greek. Equivalent Course(s): GREK 41217, FNDL 21224

# SCTH 31614. The Return of Homer: The Iliad and Odyssey in Contemporary English Language Fiction and Poetry. 100 Units.

The course will examine the extraordinary flowering of English language novels and poems based on the Homeric epics in the past quarter century. We will ask how different contemporary poets and prose writers have interpreted Homer's works and try to understand the appeal of this ancient poetry for modern authors, readers, and publishers. The reading will include such works as Margaret Atwood, The Penelopiad; Byrne Fone, War Stories: A Novel of the Trojan War; Christopher Logue, An Account of Homer's Iliad; David Malouf, Ransom; Zachary Mason, The Lost Books of the Odyssey; Madeline Miller, The Sone of Achilles; Alice Oswald, Memorial: A Version of Homer's Iliad; Lisa Peterson, An Iliad; Kate Quinn, et al., A Song of War; and Derek Walcott, Omeros. English translations of such foreign-language works as Alessandro Baricco's An Iliad Ismail Kadare's The Fijile on H. may also be considered if students wish. Equivalent Course(5): CLAS 31617

## SCTH 31717. Plato on Love and Friendship. 100 Units.

This course will explore Plato's understanding of love and friendship, their relations between them and relations to philosophy and politics through an introductory reading of his Phaedrus and Lysis. Instructor(s): Nathan Tarcov Terms Offered: Autumn. Course will be offered Autumn 2020 Prerequisite(s): Open to undergrads by consent.

Equivalent Course(s): PLSC 31717, FNDL 21720

## SCTH 31718. Machiavelli's Prince. 100 Units.

A reading of THE PRINCE supplemented by relevant portions of Machiavelli's DISCOURSES, FLORENTINE HISTORIES, and letters and selected secondary literature. Instructor(s): Nathan Tarcov Terms Offered: Winter. Course to be taught Winter 2021 Equivalent Course(s): PLSC 31718

## SCTH 31926. Aristophanes' Clouds and Plato's Gorgias. 100 Units.

An inquiry into Socrates based on two contrasting works. Equivalent Course(s): CLAS 41216

SCTH 31927. Reading Thucydides. 100 Units.

An exploration of the text in translation, or, if possible, in Greek. Instructor(s): James Redfield Terms Offered: Spring. course taught spring 2018 Prerequisite(s): Open to undergrads by consent only

## SCTH 31928. Genesis and Exodus. 100 Units.

A close reading of the texts in English with an emphasis on narrative. Instructor(s): James M. Redfield Terms Offered: Winter. Course will be taught winter 2019 Note(s): open to undergrads by consent

## SCTH 31931. Plato's Representation of Socrates. 100 Units.

This course is intended for students who have already read a fair amount of Plato (usually in English), and are still wondering what to make of it. Readings will include the 7th Letter and particular dialogues to be chosen in consultation with the class as we go along. Topics will include the relevant 4th c. context, also the representation of 5th c. society, also Plato's biography, the Academy, Plato's competitors, the origins and development of the dialogue form, others which may turn up in discussion. The Bollingen Complete Works of Plato has been ordered through the Seminary Coop. Instructor(s): James Redfield Terms Offered: Winter. Course will be taught winter 2020. Note(s): This is a graduate seminar open to undergrads by consent.

Fore (s): This is a graduate seminar open to un

Equivalent Course(s): CLAS 31919

## SCTH 32011. Data: History and Literature. 100 Units.

Data is a notion that seems to characterize our contemporary world. Digital revolutions, artificial intelligence, and new forms of management and governance all claim to be data-driven. This course traces the origins of these trends to the nineteenth century, when new statistical knowledges and literary traditions emerged. Moving across disciplinary boundaries, we will analyze the ways in which practices of observation and calculation produced data on populations, crime, and economies. Likewise, the literature of this period reflected the ways that data shaped subjective experience and cultural life: the rise of the detective novel transformed the world into a set of signs and data points to interpret, while Balzac's Human Comedy classified individuals into types. Drawing on these historical and humanistic perspectives, students will have the opportunity to measure and analyze their own lives in terms of data-as well as think critically about the effects of these knowledge practices.

Instructor(s): Alexander Campolo, Anastasia Klimchynskya Terms Offered: Autumn

Note(s): undergrads permitted with permission of instructors

Equivalent Course(s): ENGL 32011, SOCI 30518, SOCI 20518, DIGS 30016, KNOW 32011, STAT 36711, HIPS 22011, CHSS 32011, PPHA 32011, KNOW 22011

## SCTH 32402. Perspective as a Challenge to Art History. 100 Units.

Equivalent Course(s): ARTH 32402, ARTH 22402, ENGL 22402, ENGL 42412

#### SCTH 32403. Frege's Foundations of Arithmetic as Philosophy and Literature. 100 Units.

One peculiarity of current English-language philosophy is that its founding text is a nineteenth-century German effort to reform mathematics. Gottlob Frege's Grundlagen der Arithmetic (1884) was ignored in its day, before the discovery of Russell's Paradox round 1900 seemed to make its mathematics otiose. But its impact on logic, metaphysics, philosophical method and style have made the book a classic, though a fragmentary one. This course aims to regain the unity of this dense but short work, reading for argument and intention, texture and style, in the original and J.L. Austin's fine English translation.

Equivalent Course(s): FNDL 22404

#### SCTH 32720. Anth Lit-World Poetry. 100 Units.

This course explores fundamentals of poetry and poetics on a world basis (e.g., music of language, theory of tropes, poetry and myth, linguistic-poetic relativism, unique individual, sociopolitical context, moral intention of the poet, metaphysical questions). We focus on the following four poetic worlds: T'ang Chinese (e.g., Tu Fu); Russian (i.e., Pushkin); Native American (e.g., Quechua, Eskimo); and three American poets (Dickenson, Frost, Hughes). We also briefly introduce other poetic worlds (e.g., Villon, Baudelaire, haiku).

Equivalent Course(s): ANTH 34814

#### SCTH 32802. Risk and Uncertainty in Modern Social Thought. 100 Units.

This course will explore the intertwined histories of risk and uncertainty in modern social thought. Existing scholarship on risk tends to focus on the history of the quantification of risk: the rise of probability theory and statistics is central to these accounts of the emergence of the ideas of risk. In modern economic and social thought, however, the challenge of managing unquantifiable risk - what is often called 'true' or 'radical' uncertainty - has become ever more central. 20th-century thinkers such as Joseph Schumpeter, Frank Knight, Frank Ramsey, and John Maynard Keynes grappled with the problem of uncertainty and its relation to theories of decision-making prominent in economic theory. We will read key works of these prophets of uncertainty, and consider their relations to the recent conjuring away of the problem of uncertainty in the form of subjective expected utility theory. We will also examine the connections between the concept of uncertainty and the understanding of modern capitalism.

Instructor(s): Joel Isaac Terms Offered: Autumn. Course offered Autumn 2018 Prerequisite(s): Open to undergrads Equivalent Course(s): HIST 39416

Equivalent Course(s). HIST 39410

## SCTH 32803. Moral Economy. 100 Units.

Moral Economy" has become a byword for democratic opposition to capitalism. The term was coined by the historian E.P. Thompson, who used it to describe the social rights to which working people appealed during food riots in eighteenthcentury England. Since Thompson, the concept of moral economy has become ubiquitous in the social sciences: it is invoked by anthropologists, political theorists, economists, and historians to cover a bewildering array of phenomena. In this course, we will explore both the history and the normative content of the idea of moral economy. We will ask whether it successfully accounts for the mass political phenomena is often used to explain: riots, revolution, collective risk-management, and practical notions of rights and social justice. Readings will include works by William Godwin, Anton Menger, E.P. Thompson, James C. Scott, Michael Sandel, and Samuel Bowles.

Instructor(s): Joel Isaac Terms Offered: Winter. Course will be taught winter 2019

Prerequisite(s): This is part of a new undergraduate sequence on democratic politics.

#### SCTH 33401. Conceptual Foundations of the Modern State. 100 Units.

The course will examine the evolution of western thinking about the modern concept of the state. The focus will be on Renaissance theories (Niccolò Machiavelli; Thomas More); theories of absolute sovereignty (especially Thomas Hobbes); theories about 'free states' (James Harrington, John Locke); and republican theories from the era of the Enlightenment. Equivalent Course(s): PHIL 31399, PHIL 21399, HIST 49403

## SCTH 33819. Narratology of Tears: Goethe, Sterne, and the Sentimental Novel. 100 Units.

This seminar will, with a certain intensity of focus, examine two masterpieces of the "sentimental" mode: Laurence Sterne's A Sentimental Journey Through France and Italy (1768) and Goethe's Die Leiden des jungen Werther (1774). Since these novels are both generically self-reflective and, each in its own way, boldly experimental, they are well-suited for an analysis oriented toward the theory of narrative. Comparisons will be drawn to passages in Samuel Richardson's Clarissa, or, The History of a Young Lady (1747-8) and Rousseau's Julie, ou La nouvelle Heloise (1761). We will also take a forward look at Pierre Choderlos de Laclos' Liaisons dangereuses (1782), which may be considered the destruction of the form. In addition to fundamental contributions to narratology, works by Roland Barthes (Fragments of a Lover's Discourse), Albrecht Koschorke (Körperströme und Schriftverkehr. Mediologie des 18. Jahrhunderts), and James Chandler (An Archeology of Sympathy. The Sentimental Mode in Literature and Cinema) will be important points of reference. As always, Schiller's Über naïve und sentimentalische Dichtung will prove indispensable.

Instructor(s): David Wellbery Terms Offered: Autumn

Equivalent Course(s): GRMN 33819, CMLT 33819

## SCTH 34017. Fact and Fiction: Hoaxes and Misunderstandings. 100 Units.

This course will focus on fictional texts that readers have misrecognized as factual accounts, as well as the less frequent case of factual texts misidentified as fictional. Students will study the rhetorical strategies or historical and cultural circumstances responsible for these "errors of pragmatic framing" (O. Caïra) by investigating the contexts governing the production or reception of works such as Apuleius' The Golden Ass, Les Lettres d'une religieuse portugaise, Denis Diderot's La Religieuse, Wolfgang Hildesheimer's Marbot: A Biography, and Orson Welles' adaptation of The War of the Worlds, among others. Equivalent Course(s): CMLT 24017, FREN 34017, CMLT 34017, FREN 24017

## SCTH 34272. The Ancestral. 100 Units.

Recent work in history and anthropology has stressed the need for deeper models of origins and relations, perhaps even dispensing with "prehistory" as an alternative to more familiar forms of historical self-understanding. This class will look at how the ancestral in literature imagines such deep forms of historical belonging, staging modes of revenance whose cryptic vitalism challenges the phenomenological basis of new materialism. Readings will include Martin Heidegger, Ronald Hutton, Ethan Kleinberg, Quentin Meillassoux, Hans Ruin, and Anna Tsing, poetry by Li He and Osip Mandelstam, weird fiction by H. P. Lovecraft, Arthur Machen and Algernon Blackwood, and futurology by Cicely Hamilton, Jean Hegland, Sarah Moss, and Will Self.

Instructor(s): Mark Payne Terms Offered: Winter Equivalent Course(s): CMLT 24272, CMLT 34272

## SCTH 34601. How to Think about Literature: the Main Notions. 100 Units.

In literary studies new trends and theories rarely supersede older ones. While in physics and biology Aristotle has long been obsolete, literary scholars still find his Poetics to be a source of important insights. And yet literary studies are not resistant to change. Over time, they have experienced a genuine historical growth in thinking. Perhaps one can best describe the discipline of literature as a stable field of recurring issues that generate innovative thinking. This course will introduce graduate students to the main notion of the field. Its aim is to identify an object of study that is integral, yet flexible enough to allow for comparisons between its manifestations in various national traditions. Equivalent Course(s): CMLT 46000

### SCTH 34802. Gibbon's Decline and Fall (Part 1) 100 Units.

A close reading of the first half of Gibbon's masterwork, together with his Autobiography. Instructor(s): R. Lerner Terms Offered: Autumn Equivalent Course(s): FNDL 24302

#### SCTH 35000. Winckelmann: Enlightenment Art Historian and Philosopher. 100 Units.

We approach the first great modern art historian through reading his classic early and mature writings and through the art and criticism of his time (and at the end, our own). Reading-intensive, with a field trip to the Art Institute. Instructor(s): Andrei Pop Terms Offered: Autumn

Prerequisite(s): German reading competence helpful, but NOT required.

Equivalent Course(s): GRMN 35015, CLAS 35014, KNOW 35000, ARTH 35115, GRMN 25015, ARTH 25115

### SCTH 35001. Theatricality in Modern Art from 1700 to the Present. 100 Units.

We examine the dramatic dimension of art in the modern era broadly speaking, paying attention to recurring themes like the Aristotelian theory of acton, the Diderotian theory of acting, and the linguistic theory of speech acts, as well as to momentous historical events like the French Revolution, the rediscovery of antiquity, and the advent of photography and motion pictures. Paradigms that have been influential in one or another discipline like Michael Fried's theory of theatricality (in art history), Heinrich Kleist's theory of puppets (In German literature and theatre theory) and Friedrich Nietzsche's theory of tragedy (in music and philosophy) and will also be scrutinized.

Equivalent Course(s): ARTH 35001

#### SCTH 35006. Can We Be Sure of God's Existence? Anselm's Proslogion. 100 Units.

The prelate and philosopher Anselm of Canterbury is famous among other things for the brief PROSLOGION, whose even briefer logical argument for the existence of God has been ridiculed for centuries as bad metaphysics. But its twentiethcentury reappraisal, together with the text's eloquent prayer form and Anselm's appealing statement of his rational method of "faith seeking understanding" (fides quaerens intellectum) suggest it deserves our attention. We will read and reread the original (in Latin, if desired), as well as important philosophical discussions of it.

Instructor(s): Andrei Pop Terms Offered: Spring. Course will be taught Spring 2019

Equivalent Course(s): FNDL 25006

## SCTH 35007. Manet, Mallarmé, and Modernism. 100 Units.

Much of the theory, as well as the look and sound of modern art, as it developed in the late nineteenth century, is the result of the individual efforts as well as the friendly collaboration of the Parisian painter Edouard Manet and the Parisian poet and English teacher Stéphane Mallarmé. This course will introduce them, examine their major collaborations (Le Courbeau, L'Après-Midi d'un Faune), and place them within the developing consensus in experimental art and thought at the fin de siècle, which for reasons having to do with the reception Mallarmé, came to be called symbolism.

Instructor(s): A. Pop Terms Offered: Spring

Equivalent Course(s): FNDL 25007, ARTH 24721, ARTH 34721

## SCTH 35008. Changing Worlds: J.G. Ballard's Apocalyptic Quartet. 100 Units.

Between 1961 and 1966, the English novelist and short story writer J.G. Ballard produced four novels (THE WIND FROM NOWHERE, THE DROWNED WORLD, THE BURNING WORLD, and THE CRYSTAL WORLD) that depict, poetically and concretely, global changes to the earth and its human inhabitants, n particular their imaginations. The relation of these lyrical apocalypses to science fiction, visual art, ecology and the philosophy of time, as well as their awkward coordination into a cycle, will concern us. We will conclude the course by reading Anna Kavan's 1967 ICE, which in a way complements and completes Ballard's cycle.

Instructor(s): Andrei Pop Terms Offered: Autumn. Course to be taught Autumn 2019 Note(s): Open to undergraduates.

Equivalent Course(s): FNDL 25008, ENGL 35008

#### SCTH 35009. Platonic Aesthetics. 100 Units.

The anachronism of the course title constitutes our program: to what extent can Plato's thinking about artworks, images, poets in the polis, beauty, the visual world, the senses, subjectivity and criticism be viewed coherently as an aesthetic theory? Does his style and dramatic mode of writing interact significantly with these views? How have they been received, and to what extent are they right?

Instructor(s): Andrei Pop Terms Offered: Winter. Course to be taught winter 2021 Equivalent Course(s): CLAS 38020, FNDL 29005

### SCTH 35708. Wittgenstein: Early and Late. 100 Units.

The course is devoted to the unity and the disunity in the evolution of Wittgenstein's philosophy. We shall question the prevalent view that the later radically breaks with the earlier. In accord with Wittgenstein's own advice we shall study the PHILOSOPHICAL INVESTIGATIONS in light of the TRACTATUS, and the TRACTATUS from the perspective of the PHILOSOPHICAL INVESTIGATIONS. We shall also look at some of Wittgenstein's writing from the thirties (e.g., The Big Typescript).

Instructor(s): Irad Kimhi Terms Offered: Autumn. Course to be taught autumn 2020 Equivalent Course(s): PHIL 35708

#### SCTH 35709. Anxiety and Nothingness. 100 Units.

Anxiety is discussed in modern philosophy as a mood which by contrast to fear is not directed to an object and thus reveals the "nothing" which dominates our engagement with beings. The class will be devoted to the modern philosophical discourse on "anxiety" and "nothing. Among the texts that we shall study are: Kierkegaard's THE CONCEPT OF ANXIETY, Heidegger's INTRODUCTION TO METAPHYSICS, and Sartre's BEING AND NOTHINGNESS. We shall also compare the philosophical concern with anxiety/nothing with the discussion of anxiety in psychoanalysis, especially in Lacan's Seminar ANXIETY (i.e., Seminar 10)

Instructor(s): Irad Kimhi Terms Offered: Winter. Course will be taught winter 2021 Equivalent Course(s): PHIL 35709

## SCTH 35902. Virgil, The Aeneid. 100 Units.

A close literary analysis of one of the most celebrated works of European literature. While the text, in its many dimensions, will offer more than adequate material for classroom analysis and discussion, attention will also be directed to the extraordinary reception of this epic, from Virgil's times to ours.

Instructor(s): G. Most Terms Offered: Winter 2013

Prerequisite(s): Latin helpful

Equivalent Course(s): CMLT 35902, CLAS 44512, ENGL 35902

## SCTH 35914. Early Novels: The Ethiopian Story, Parzifal, Old Arcadia. 100 Units.

The course will introduce the students to the oldest sub-genres of the novel, the idealist story, the chivalric tale and the pastoral. It will emphasize the originality of these forms and discuss their interaction with the Spanish, French, and English novel.

Instructor(s): T. Pavel, G. Most Terms Offered: Winter

Equivalent Course(s): RLLT 24402, CMLT 34402, CMLT 24402, RLLT 34402

## SCTH 35991. Sophocles, THE TRACHINIAN WOMEN. 100 Units.

A close literary and philological analysis of one of the most remarkable and perplexing of all Greek tragedies. While this has traditionally been one of the most neglected of Sophocles' tragedies, it is a drama of extraordinary force and beauty and the issues that it explores - husband and wife, parents and child, sexual violence, myth and temporality, divinity and humanity, suffering and transcendence - are ones that are both of permanent interest and of particular relevance to our present concerns. The poetic text, in its many dimensions, will offer more than adequate material for classroom analysis and discussion, but some attention will also be directed to the reception of this play.

Instructor(s): Glenn W. Most Terms Offered: Course will be taught winter 2021 via zoom

Prerequisite(s): PQ: a reading knowledge of ancient Greek or the consent of the instructor; open to graduate students and, with the consent of the instructor, to undergraduates.

Equivalent Course(s): GREK 41220

#### SCTH 36002. Elizabeth Bishop and Robert Lowell. 100 Units.

An intensive study of these two poets, whose work differs radically, but whose friendship nourished some of the most enduring and original poetry of the American 20th century. Close attention to the poems, in the light of recent biographical work and new editions.

Equivalent Course(s): ENGL 36222

#### SCTH 36003. 20th Century French Poets in Translation. 100 Units.

An examination of four poets who shaped the possibilities of the art in the 20th century: Apollinaire, Max Jacob, Rene Char, and Francis Ponge. We will read the poems in translating with reference to the French originals. Instructor(s): Rosanna Warren Terms Offered: Winter. course will be taught winter 2019

Equivalent Course(s): CMLT 36003, FREN 36003

## SCTH 36012. 19th Century French Poetry in Translation: Tradition and Revolution. 100 Units.

A study of modern French lyric poetry: Tradition and Revolution, Poetry and Politics, the seedbed of Modernism. Desbordes-Valmore, Baudelaire, Mallarme, Verlaine, Rimbaud, Apollinaire. Texts will be read in English with reference to the French originals. Close reading, references to poetry in English, and focus on problems in translation. Students with French should read the poems in the original. Class discussion to be conducted in English; critical essays to be written in English. An extra weekly session will be scheduled for discussion in French, for French-speakers.

Instructor(s): Rosanna Warren Terms Offered: Autumn. Course to be taught autumn 2019

Prerequisite(s): For advanced undergrads seeking French credit: French 20500 or 20503 and at least one literature course taught in French.

Note(s): For graduate students and advanced undergraduates.

Equivalent Course(s): FREN 36019, FREN 26019, SCTH 26012, CMLT 36012, ENGL 36012

#### SCTH 36013. Contemporary Poems in English. 100 Units.

TBD

Equivalent Course(s): ENGL 36013

#### SCTH 36014. T.S. Eliot. 100 Units.

With the major new edition of Eliot's poems by Jim McCue and Christopher Ricks, the new volumes of Eliot's letters, and two separate new editions of Eliot's complete prose, we are in a position to rethink the meanings and force of Eliot's life work. The class will be devoted to careful reading of his poems, essays, plays, and correspondence, with attention to his literary, cultural, and political contexts.

Instructor(s): Rosanna Warren Terms Offered: Spring. Course will be taught spring 2021 Equivalent Course(s): FNDL 26614, ENGL 34850, ENGL 26614

#### SCTH 36015. The New Criticism. 100 Units.

n examination of primary works of The New Criticism, British and American. We will consider the theoretical variety and different critical practices of these loosely allied critics, who were often not allies at all. Authors to be studied: I.A. Richards, T.S. Eliot, F.R. Leavis, Kenneth Burke, John Crowe Ransom, Cleanth Brooks, Robert Penn Warren, W.K. Wimsatt, Yvor Winters, R. P. Blackmur, William Empson.

Equivalent Course(s): ENGL 43250, CMLT 36015

## SCTH 36016. Robert Frost and Wallace Stevens. 100 Units.

Robert Frost and Wallace Stevens, two giants of American poetry in the 20th century, both spiritual sons of Emerson, opened divergent paths for the art and competed fiercely with each other. By studying them side by side, we will explore the modern struggle to take account of experience, reality, and imagination in language. Stevens: "Your trouble, Robert, is that you write poems about - things." Frost: "Your trouble, Wallace, is that you write poems about - bric a brac." (Exchange in 1940)

Instructor(s): Rosanna Warren Terms Offered: Autumn. Course to be taught autumn 2019 Prerequisite(s): Open to graduates and undergraduates. Equivalent Course(s): FNDL 26017

## SCTH 36415. Heinrich von Kleist. 100 Units.

The seminar explores the work of Heinrich von Kleist in all its dimensions: The plays, novellas, short prose, and letters. The main focus is on close readings and discussion, but we'll also put to the test Kleist's broader relevance for literary poetics, philosophy, theology, and juridical as well as political thought. While the instructor's interest lies on the question of justice as the driving force behind Kleist's production, participants are asked to bring their own agendas, and we'll use the first meeting to work out a schedule for the class.

Instructor(s): Florian Klinger Terms Offered: Winter

Note(s): Readings in German, Discussion in English.

Equivalent Course(s): GRMN 36415

#### SCTH 36710. Eccentric Moderns. 100 Units.

An examination of six idiosyncratic poets who invented new forms of language on the peripheries of High Modernism: David Jones, Laura Riding, Hart Crane, W.H. Auden, Geoffrey Hill, and Anne Carson, Close formal analysis of the poems in the wider social and political contexts of the 20th and early 21st centuries.

Instructor(s): Rosanna Warren Terms Offered: Autumn. course is offered Autumn 2018

Prerequisite(s): Open to advanced undergraduates Equivalent Course(s): ENGL 36710

#### SCTH 37000. Aesthetics of French Classicism. 100 Units.

Though "aesthetic" philosophy first developed as an autonomous field in the mid-eighteenth century, it has important roots in earlier eighteenth- and seventeenth-century debates concerning literature and the arts. In the wake of Cartesian rationalism, could reasoned method be reconciled with non-rational creativity, or decorous order with the unruly "sublime"? Just what kind of "truth" was revealed by poetry or painting? We will consider the relation between literature and other media (including music, opera, and the visual arts) and gauge the impact of French classical criticism on the broader European scene. Readings will include works by Descartes, Pascal, Boileau, Molière, La Fontaine, Félibien, Du Bos, Addison, Hutcheson, Vico, Montesquieu.

Instructor(s): L. Norman Terms Offered: Spring

Prerequisite(s): Undergrads admitted with permission of instructor.

Note(s): Course will be conducted in French; students not taking course for French credit may do written work and class presentations in English.

Equivalent Course(s): REMS 37000, CMLT 38600, ARTH 48301, FREN 37000

#### SCTH 37016. Goethe's Novels II: Die Wahlverwandtschaften. 100 Units.

After considering Goethe's Werther and Wilhelm Meisters Lehrjahre in the first phase of this three-part seminar, we turn to Goethe's "most beautiful book" (as he put it): Die Wahlverwandtschaften of 1809. The remarkable feature of Goethe's novelistic production is that each of his four novels develops a distinct formal or generic conception. In the case of Elective Affinities, we have what the philosopher-aesthetician Karl Ferdinand Solger referred to as a "tragic novel" and what others have called a "novel of society." Other terms suggest themselves, for example: "experimental novel" (in view of the fact that it is a scientific experiment from which the novel draws its leading metaphorical model). The seminar will consider the question of genre along with other, related issues: the place of science/knowledge in the novel (in the novel in its historical context, the novel's mode of citation and signification. Major contributions to the criticism of the novel (from Solger to Kittler) will be discussed as we develop a close reading of the novel across the ten weeks of the quarter. The written requirement for the seminar is a suite of bi-weekly "response papers." The seminar will include a special one-day roundtable on Walter Benjamin's essay on Die Wahlverwandtschaften with the participation of guest scholars. Instructor(s): D. Wellbery Terms Offered: Autumn

Equivalent Course(s): GRMN 37016

#### SCTH 37105. Sem: Augustine. 100 Units.

Instructor(s): Clifford Ando & Terms Offered: Winter Equivalent Course(s): HIST 23513, HIST 33513, CLAS 46313

#### SCTH 37106. Race and Religion: Judaism, Christianity, and Islam. 100 Units.

What does race have to do with religion? This course will explore how racial concepts - ideas about the transmission of characteristics through blood and lineage - emerged in Judaism, Christianity, and Islam, often in response to episodes of large-scale conversion. The word "race" was itself first applied to humans in response to one of these episodes: the mass conversions of Jews and Muslims to Christianity in late medieval Spain. We will study this and other episodes, beginning with early Christianity and early Islam, and concluding with conversions to Islam in South Asia, and of enslaved Africans and native peoples to Christianity in the New World, in order to ask how these episodes of conversion influenced the mapping of culture (religion) onto reproduction (nature, biology). Did they effect the racialization of religion? and what influence did these mappings have on racial concepts in modernity?

Instructor(s): David Nirenberg Terms Offered: Winter. Course to be taught Winter 2020

Prerequisite(s): Undergrads by consent of instructor.

Equivalent Course(s): HCHR 37106, HIST 42102, ISLM 37106, HIJD 37106

#### SCTH 37319. Nietzsche's Beyond Good and Evil. 100 Units.

I shall present a new interpretation of Nietzsche's Beyond Good and Evil and discuss Nietzsche's book form the beginning to its end in detail.

Equivalent Course(s): GRMN 37319, FNDL 25703, PHIL 37319

#### SCTH 37323. Leo Strauss and Lucretius On the Nature of Things. 100 Units.

I shall discuss Leo Strauss's "Notes on Lucretius" (1968) and Lucretius' DE RERUM NATURA with a special focus on the relation of philosophy and poetry.

Terms Offered: Spring. Course will be taught spring 2021

Note(s): Undergrads with consent only.

Equivalent Course(s): CLAS 36720, PLSC 37323, FNDL 27323, PHIL 37323

#### SCTH 37501. Psychoanalysis and Philosophy. 100 Units.

An introduction to psychoanalytic thinking and its philosophical significance. A question that will concern us throughout the course is: What do we need to know about the workings of the human psyche-in particular, the Freudian unconscious-to understand what it would be for a human to live well? Readings from Plato, Aristotle, Freud, Bion, Betty Joseph, Paul Gray, Lacan, Lear, Loewald, Edna O'Shaughnessy, and others.

Equivalent Course(s): FNDL 28210, HIPS 28101, PHIL 28210, PHIL 38209

### SCTH 37512. Dream of the Red Chamber: Forgetting About the Author. 100 Units.

The great Chinese-Manchu novel \_Honglou meng\_ (ca. 1750) has been assigned one major author, Cao Xueqin, whose life has been the subject of much investigation. But before 1922 little was known about Cao, and interpreters of the novel were forced to make headway solely on the basis of textual clues. The so-called "Three Commentators" edition (\_Sanjia ping Shitou ji\_) shows these readers at their creative, polemical, and far-fetched best. We will be reading the first 80 chapters of the novel and discussing its reception in the first 130 years of its published existence (1792-1922), with special attention to hermeneutical strategies and claims of authorial purpose. Familiarity with classical Chinese required.

Instructor(s): Haun Saussy Terms Offered: Spring

Prerequisite(s): Familiarity with classical Chinese required.

Equivalent Course(s): FNDL 27512, EALC 27512, CMLT 27512, CMLT 37512, EALC 37512

## SCTH 38001. Hegel: Phenomenology. 100 Units.

Equivalent Course(s): GRMN 33200, PHIL 33301, PHIL 23301

#### SCTH 38005. Nietzsche's Critique of Morality. 100 Units.

Equivalent Course(s): GRMN 24709, GRMN 34709, PHIL 24709, PHIL 34709

#### SCTH 38006. Philosophical Fiction: Proust's In Search of Lost Time. 100 Units.

We will discuss all seven volumes of Proust's magisterial novel, IN SEARCH OF LOST TIME (1913-1927). The novel is well known for its treatment of a large number of philosophical issues: including self-identity over time, the nature of memory, social competition and snobbery, the nature of love, both romantic and familial, the role of fantasy in human life, the nature and prevalence of jealousy, the nature and value of art, the chief characteristics of bourgeois society, and the nature of lived temporality. Our interest will be not only in these issues but also in what could be meant by the notion of a novelistic "treatment" of the issues, and how such a treatment might bear on philosophy as traditionally understood. We shall use the Modern Library boxed set of seven volumes for the English translation, and for those students with French, we will use the Folio Collection paperbacks of the seven volumes. (I)

Instructor(s): Robert Pippin and Joshua Landy Terms Offered: Spring. Course will be taught spring 2019 Prerequisite(s): In order to be able to do so in a ten week quarter, student must announce their intention to register for the course before the end of the Spring quarter 2018, and pledge to have read the entire novel before the March 2019 beginning of the seminar. (They can do so by emailing Robert Pippin at rbp1@uchicago.edu) Equivalent Course(s): FNDL 28006, PHIL 28006

#### SCTH 38112. Film Aesthetics. 100 Units.

The main questions to be discussed are: the bearing of cinema on philosophy; or in what sense, if any, is cinema a form of philosophical thought? What sort of distinctive aesthetic object is a film, or what is the "ontology" of film? What, in particular, distinguishes a "realist" narrative film? What is a "Hollywood" film? What is a Hollywood genre? Authors to be read include, among others, Bazin, Cavell, Perkins, Wilson, Rothman. Films to be seen and discussed, among others, include films by Bresson, Ford, Ophuls, Cukor, Hitchcock, and the Dardenne brothers. (I)

Instructor(s): J. Conant, R. Pippin Terms Offered: Spring

Equivalent Course(s): CMST 27205, PHIL 20208, PHIL 30208, CMST 37205

#### SCTH 38113. Hermeneutics of the Image. 100 Units.

What does it mean to "read" an image? To achieve an understanding of its "meaning"? This is not an easy question since images don't directly offer propositional content, which is the usual habitat of meaning. In this seminar, we will approach this question by considering first some foundational contributions to hermeneutics (Gadamer, Hirsch) and to the theory of pictorial meaning (Wollheim). We will then dig into the tradition of pictorial interpretation as it unfolds starting with Winckelmann and Diderot and extending to the present day (Fried, Clark). Freudian hermeneutics (Freud, Adrian Stokes), iconology (Panofsky), and phenomenology (Merleau-Ponty, Heidegger) will also be considered. In each case, we will endeavor to test the claims and interpretive findings through close examination of the images involved. The emphasis will be on the tradition of European painting and sculpture, but the tools acquired in the seminar should also be applicable in other fields.

Instructor(s): David Wellbery Terms Offered: Winter

Prerequisite(s): For advanced undergrads, consent of instructor required. Equivalent Course(s): ARTH 35213, GRMN 35213, ARTH 25213, GRMN 25213

#### SCTH 38201. Pascal and Simone Weil. 100 Units.

Blaise Pascal in the seventeenth century and Simone Weil in the twentieth formulated a compelling vision of the human condition, torn between greatness and misery. They showed how human imperfection coexists with the noblest callings, how attention struggles with distraction and how individuals can be rescued from their usual reliance on public opinion and customary beliefs. Both thinkers point to the religious dimension of human experience and suggest unorthodox ways of approaching it. We will also study an important text by Gabriel Marcel emphasizing human coexistence and cooperation. Instructor(s): T. Pavel Terms Offered: Spring

Prerequisite(s): Undergraduates must be in their third or fourth year.

Note(s): Taught in English. For French undergraduates and graduates, there will be a bi-weekly one-hour meeting to study the original French texts.

Equivalent Course(s): FNDL 21812, CMLT 39101, FREN 29100, CMLT 29101, FREN 39100, RLST 24910

#### SCTH 38230. Les Misérables. 100 Units.

In this course we read Les Misérables and discuss the work's message, structure, and aesthetic vision. We will be particularly attentive to Victor Hugo's role as an observer of nineteenth-century French society as well as an actor in the political life of his times.

Instructor(s): R. Morrissey Terms Offered: Winter

Note(s): All classes and texts in French; presentations preferred in French, but English will be acceptable depending on the concentration. Written work in French or English.

Equivalent Course(s): FNDL 26100, FREN 36103, FREN 26103

#### SCTH 38240. Beautiful Souls, Adventurers, and Rogues. The European 18th Century Novel. 100 Units.

The course will examine several major eighteenth-century novels, including Manon Lescaut by Prevost, Pamela and fragments from Clarissa by Richardson, Shamela and fragments from Joseph Andrews by Fielding, Jacques le Fataliste by Diderot, and The Sufferings of Young Werther by Goethe.

Instructor(s): T. Pavel Terms Offered: Winter

Prerequisite(s): Not open to first-year undergraduates.

Note(s): Taught in English. A weekly session in French will be held for French majors and graduate students. Equivalent Course(s): CMLT 24401, FREN 25301, FREN 35301, CMLT 34401

#### SCTH 38250. Don Quixote. 100 Units.

The course will provide a close reading of Cervantes' Don Quijote and discuss its links with Renaissance art and Early Modern narrative genres. On the one hand, Don Quijote can be viewed in terms of prose fiction, from the ancient Greek romances to the medieval books of knights errant and the Renaissance pastoral novels. On the other hand, Don Quijote exhibits a desire for Italy through the utilization of Renaissance art. Beneath the dusty roads of La Mancha and within Don Quijote's chivalric fantasies, the careful reader will come to appreciate glimpses of images with Italian designs. Instructor(s): F. de Armas, T. Pavel Terms Offered: Winter

Note(s): Taught in English. Students seeking Spanish credit will read the text in the original and use Spanish for the course assignments.

Equivalent Course(s): SPAN 34202, CMLT 28101, SPAN 24202, CMLT 38101, FNDL 21221

# SCTH 38502. Henry James and the Question of Evil: The Portrait of a Lady and the Turn of the Screw. 100 Units. Equivalent Course(s): ENGL 48502

#### SCTH 38816. Literature as Trial. 100 Units.

The affinities between literary and judicial practice seem as old as literature itself. Countless literary works take the form of a trial, revolve around a case or trial scene, or negotiate competing ways of seeing and talking. What is the relationship between judgment and poetic form? Can "trial" be understood as a distinct form of discourse? What role can the literary play in the legal process? Is there a privileged relationship between the trial and the dramatic genre? Can literature be a trianing for judgment? Are there specifically poetic forms of justice? Readings include Sophocles, Dante, Shakespeare, Kleist, Kafka, Arendt, Weiss, Derrida, Coetzee.

Equivalent Course(s): CMLT 38815, CMLT 28815, GRMN 38815, GRMN 28815

## SCTH 39117. Burke's Politics. 100 Units.

A broad but intensive examination of Edmund Burke's principles and political practice as exhibited in his writings and parliamentary speeches.

Equivalent Course(s): FNDL 29117

## SCTH 39123. Reading Sir Francis Bacon. 100 Units.

Terms Offered: R. Lerner Equivalent Course(s): FNDL 26706

#### SCTH 39127. The Political Thought of James Madison. 100 Units.

A close examination of the philosophic underpinnings of Madison's political thought. Equivalent Course(s): FNDL 29127

SCTH 39128. Political Essays from the 'Encyclopedie' 100 Units.

A window into the project of the radical enlightenment as exemplified by selected political essays in Diderot and d'Alembert's Encyclopedie.

Equivalent Course(s): FNDL 29218

#### SCTH 39130. Montesquieu's Persian Letters. 100 Units.

A close reading of a challenging critique of social and political thought. Equivalent Course(s): FNDL 29130

## SCTH 39131. Tyranny Ancient and Modern. 100 Units.

This class will test an hypothesis - that the appearance of Machiavelli's Prince marks a watershed in the history of tyranny. It will have as its focus Machiavelli's claim in the eleventh chapter of The Prince that "only" ecclesiastical principalities "are secure and prosperous." It will explore what Machiavelli learned from his study of what came to be called priestcraft, and it will examine what his subsequent admirers did with what he learned. The reading will include work by Alfarabi and those among his successors whose account of the relationship between philosophy and religion influenced Machiavelli as well as selections from the writings of Mario Vargas Llosa, Herodotus, Plato, Xenophon, Tacitus, Suetonius, Savonarola, Sir Francis Bacon, David Hume, and Jean-Jacques Rousseau, among others.

Instructor(s): Ralph Lerner and Paul Rahe Terms Offered: Spring. Course will be taught spring 2019 & co-taught with Paul Rahe.

Prerequisite(s): This course will be co-taught with Paul Rahe.

Equivalent Course(s): FNDL 29131

## SCTH 39132. Philosophical Fables: Bacon's New Atlantis & Descartes' Discourse On Method OD. 100 Units.

A philosophical and literary study of two works fundamental to understanding the character and development of modern life. Instructor(s): Ralph Lerner and Stuart Warner Terms Offered: Autumn. Course to be taught autumn 2019 Prerequisite(s): Open to undergrads

Equivalent Course(s): FNDL 29132

### SCTH 39133. Benjamin Franklin and The Arts of Persuasion. 100 Units.

An examination of Franklin's lifelong attempts to persuade people to change their behavior without appearing to do so. Instructor(s): Ralph Lerner Terms Offered: Autumn. Course will be taught in Autumn 2020 Prerequisite(s): Open to undergrads. Equivalent Course(s): FNDL 29133

### SCTH 39134. Abrahamm Lincoln: The Politics of an Old Whig. 100 Units.

An examination of the principles and modes of argument that informed Lincoln's practice as a politician. Instructor(s): Ralph Lerner Terms Offered: Winter. This course will be taught winter 2021 Equivalent Course(s): FNDL 29134

### SCTH 39601. H.P. Lovecraft and Cosmic Horror. 100 Units.

This class will analyze the recent spike in critical attention to the work of H.P. Lovecraft. We will read a representative selection of Lovecraft's fiction, focusing on the works of cosmic horror, along with Lovecraft's own theoretical writings. In addition, we will read a range of contemporary critical engagements with this work - ecological, ontological, and social-theoretical.

Instructor(s): Mark Payne Terms Offered: Winter. course will be taught winter quarter 2019 Equivalent Course(s): FNDL 29601

## SCTH 40122. Self-Interest After Adam Smith. 100 Units.

This course examines the afterlife of Adam Smith's notorious defense of self-interest. Famously, Smith argued that, under what he called the system of natural liberty, the general welfare could best be served by letting individuals pursue their private interests. The precise meaning of Smith's account of the efficacy of commercial society was fiercely contested in the time he published The Wealth of Nations. During the nineteenth century and into the twentieth, the Smithian concept of self-interest was first conscripted into harsh, Malthusian views of market discipline, and then into neoclassical economics as an axiom of the theory of economic equilibrium. More recently, historians and political theorists have recovered a much richer picture of the place of self-interest in Smith's thought. Can the historical Smith erase the caricature to which we have become accustomed? Is the concept of self-interest now as central to political thought as it once was. These are the kinds of questions we will pose as we work our way through texts by Smith, Paine, Burke, Stigler, Hirschman, and others. Instructor(s): Joel Isaac Terms Offered: Winter. course will be taught winter 2019 Prerequisite(s): Grad seminar, open to undergrads by consent.

Equivalent Course(s): HIST 49405

#### SCTH 40125. Histories of Liberalism. 100 Units.

What was liberalism? This question is today often posed in the past tense. A number of recent books take as their premise the claim that the liberal tradition is now in need of a eulogy, or a decent burial, or a dogged defense, or radical reconstruction. Its high tide seems, in any case, to have passed. In this course, we will read several of these contemporary retrospectives. Among the questions we shall consider are: what do we make of these competing accounts of the nature and development of liberalism? To what extent has being a "liberal" involved constructing for oneself a "liberal tradition"? How new is this sense of the crisis of liberalism? What value has the concept of liberalism for historians and political theorists? Instructor(s): Joel Isaac Terms Offered: Spring. Course will be taught spring 2020.

Prerequisite(s): Open to Upper-level Undergrads by consent only.

Equivalent Course(s): HIST 49407

#### SCTH 40126. Economic Theory and the Theory of the State. 100 Units.

Modern economics was built on the assumption that, in a perfectly competitive economy, the price system will allocate resources to their highest-valued uses. Yet, at the same moment that the neoclassical theory of competitive equilibrium took shape, it was recognized that benefits and costs of productive activity and of consumption were often not priced in the market. These 'external economies', as they came to be called, posed a profound challenge to the new economic theory. Economists came to ask how and why they emerged, and what could be done about them. Was the coercive power of the state necessary to force those who benefited from external economies to include them in their production or consumption functions? Or could common-law adjudication take care of the problem? The problem of externalities has now drawn economists into the study of law, interest groups, ideology, and the theory of the state. In this course, we will track the conceptual history of externalities from the writings of Henry Sidgwick and J.S. Mill to work of Mancur Olson and Douglass North.

Instructor(s): Joel Isaac Terms Offered: Spring. Course will be taught spring 2021 Prerequisite(s): Open to Undergrads by consent of instructor

## SCTH 40127. Max Weber's Economic Ethics. 100 Units.

In this course we will read Max Weber's key works on the origins of capitalism and the role of ethics in shaping economic behavior. Recent scholarship has transformed our image of Weber: he is no longer the 'founder' of the professional discipline of 'sociology,' nor the prophet of rationalization and the administered society. Rather, he was a practitioner of political economy whose main project, during the last two decades of his life, was to provide a systematic account of modern capitalism under the auspices of a new field of study he called 'social economics.' The key texts for this course are ECONOMY AND SOCIETY, THE PROTESTANT WORK ETHIC AND THE SPIRIT OF CAPITALISM, and the GENERAL ECONOMIC HISTORY. We will also review aspects of the recent scholarship on Weber. Instructor(s): Joel Isaac Terms Offered: Spring. Course will be taught spring 2021 Prerequisite(s): By consent of instructor

### SCTH 40300. Case Studies on the Formation of Knowledge II. 100 Units.

The KNOW core seminars for graduate students are offered by the faculty of the Stevanovich Institute on the Formation of Knowledge. This two-quarter sequence provides a general introduction, followed by specific case studies, to the study of the formation of knowledge. Each course will explore 2-3 case study topics, and each case study will be team-taught within a "module."# A short research paper is required at the end of each quarter. Graduate students from every field are welcome. Those who take both quarters are eligible to apply for a SIFK 6th-year graduate fellowship. For more information, please email your questions to sifk@uchicago.edu Module 1 : Foundations of Psychology in Linguistics and Biology Robert Richards, John Goldsmith This module will examine the ways several established disciplines, particularly linguistics and biology, came together in the mid-19th century to establish the science of psychology. Both linguistics and biology offered empirical and theoretical avenues into the study of mind. Researchers in each advanced their considerations either in complementary or oppositional fashion. Module 2 : Origins of the Social Construction of Knowledge Robert Richards, Alison Winter This module will trace the development of the idea of the social construction of knowledge and its relation to philosophy and history of science. The development lit a spark, then created a conflagration, and yet still smolders. Module 3 : The Politics of Philosophical Knowledge

Equivalent Course(s): MAPH 40300, KNOW 40300, HIST 64901, MAPS 40301, CMLT 41803, CHSS 40300, EALC 50300, SOCI 40210

#### SCTH 40308. Political Theologies of Slavery and Freedom in the Atlantic World. 100 Units.

This seminar examines the interdisciplinary form of knowledge known as "political theology" in the context of Atlantic slavery. The course will trace two major developments. First, we will explore how Christian metaphysics facilitated colonialism and slavery, focusing on the emergence of race as a theological (rather than a biological) concept and on the self-fulfilling providentialism that structured fantasies of Euro-Christian world dominance. Second, we will explore how indigenous and African cosmologies and Christianities informed enslaved resistance and abolitionism. Our readings will range from works of political theology (Augustine, Calvin, Hobbes) to early American writings (Las Casas, Ligon, Jefferson) to Black Atlantic anti-slavery texts (Wheatley, Walker, Turner). We'll consider the explorer George Best's rewriting of the biblical Curse of Ham, Francis Bacon's claim that Europe's superior technology evidenced its Chosen status, and the ideology of "hereditary heathenism" that forestalled early efforts to convert slaves to Christianity. Likewise, we'll consider the role of obeah in the Haitian Revolution, the competing attitudes toward Christian slave revolt found in fiction by Douglass and Stowe, and the contextation of what W. E. B. Du Bois called "the new religion of whiteness." Kecondary authors may include Charles Taylor, Talal Asad, Max Weber, Colin Kidd, Rebecca Goetz, Jared Hickman, Katharine Gerbner, Jorge Cañizares-Esguerra, and J. Kameron Carter

Instructor(s): Alex Mazzaferro Terms Offered: Spring

Equivalent Course(s): CHSS 40308, CRES 30308, KNOW 40308

#### SCTH 40400. The Phenomenology Of Love. 100 Units.

Gilbert Ryle (1900-1976) was one of the leading figures of mid-20th century Oxford Philosophy. This course will focus on a close reading of his 1949 masterpiece, The Concept of Mind, with its attack on the "category-mistake" of the Cartesian "Myth of the Ghost in the Machine." Attention will be paid to Ryle's metaphilosophical writings and his views on language, his views on knowledge (and the distinction between knowledge-how and knowledge-that), his relation to behaviorism, and his impact on subsequent developments in the philosophy of mind including the token-token identity theory and functionalism.

Equivalent Course(s): PHIL 54700, DVPR 54700
### SCTH 41219. Interpretation: Theory and Practice. 100 Units.

his seminar will be conducted on two tracks. On the one hand, we will study major contributions to hermeneutic theory (including positions that understand themselves as anti-hermeneutic). Contributions to be considered include works by Friedrich Schleiermacher, Wilhelm Dilthey, Martin Heidegger, Hans-Georg Gadamer, Paul Ricoeur, E.D. Hirsch, Manfred Frank, Roland Barthes, Stanley Cavell, and Jacques Derrida. At the same time, the seminar will include a practical component in which we will collectively develop interpretations of works by Heinrich von Kleist, Johann Peter Hebel, Franz Kafka, Friedrich Nietzsche, Charles Baudelaire, Guillaume Apollinaire, Emily Dickinson, and Herman Melville. English translations of the assigned readings will be provided. (This course is restricted to students in Ph.D. programs.) Instructor(s): David Wellbery Terms Offered: Autumn

Equivalent Course(s): CMLT 41219, FREN 41219, GRMN 41219, ENGL 41219

### SCTH 41250. Hegel: Phenomenology of Spirit. 100 Units.

A study of Hegel's Phenomenology. Reading in German or English, discussion in English. Please use Suhrkamp or Meiner editions, or the Miller translation from Oxford UP. Instructor(s): Florian Klinger Terms Offered: Winter

Equivalent Course(s): GRMN 41250

### SCTH 41604. Kierkegaard's Concluding Unscientific Postscript by Johannes Climacus. 100 Units.

This seminar will engage in a close reading of Concluding Unscientific Postscript. The aim will be to develop an understanding of topics such as: living in clichés without realizing it, subjectivity and objectivity, ethics, eternal happiness, guilt, humor, irony and different manners of being religious. We shall also consider the meaning of Kierkegaard's pseudonymous authorship. This will be a seminar that requires active participation. Would all students please come to the first session having read up to page 43 of the Alastair Hannay translation (Cambridge Texts in the History of Philosophy). Instructor(s): Jonathan Lear Terms Offered: Autumn. Course will be taught Autumn 2020 and is by consent of instructor. Prerequisite(s): Students should read up to page 43 of the Alastair Hannay translation (Cambridge Texts in the History of Philosophy).

Note(s): Registration by permission of Instructor. Equivalent Course(s): PHIL 50119

### SCTH 41607. Virtues of the Intellect: Aristotle's Nicomachean Ethics VI and Heidegger's Comment. 100 Units.

This seminar will do a careful reading and investigation of Heidegger's interpretation of Aristotle on the intellectual virtues, in particular phronesis and sophia. We shall consider how the intellectual virtues differ from the ethical virtues. We shall do a careful reading of Heidegger's discussion of this material in his book Plato's Sophist and we shall compare it closely with Aristotle's own discussion in Book 6 of the Nicomachean Ethics.

Equivalent Course(s): PHIL 51714

### SCTH 43201. Freud: Found in Translation. 100 Units.

Equivalent Course(s): PHIL 43201

### SCTH 44500. Bayle In Translation. 100 Units.

This course will focus on the political and religious thought of one of the major figures of the Enlightenment, Pierre Bayle. We will study Various Thoughts on the Occasion of a Comet (1683) and selected articles from his Historical and Critical Dictionary (1697, 1702).

Instructor(s): Ralph Lerner Terms Offered: Winter. course to be taught winter 2020 Note(s): Open to advanced undergrads Equivalent Course(s): FNDL 24505

### SCTH 44914. Goethe's Novels I: Werther, Wilhelm Meisters Lehrjahre. 100 Units.

This seminar (to be followed in a future year by seminars on the two other novels by Goethe, Die Wahlverwandtschaften and Wilhelm Meisters Wanderjahre) will be centered on a close reading of Werther and Wilhelm Meister. We will also take the opportunity of this engagement with two very different narratives to review the fundamental principles of narratological analysis. Some attention will be paid to the centrality of these works (esp. WM) in the modern theory of the novel from Moritz and Fr. Schlegel to Lukacs. Paradigmatic contributions to the scholarship produced during the past three decades (e.g., psychoanalysis, discourse analysis, rhetorical-deconstructive readings) will be discussed in each session. In this regard, the seminar offers a compact introduction to recent theoretical trends in German literary studies. Instructor(s): David Wellbery Terms Offered: Autumn

Equivalent Course(s): GRMN 37014

### SCTH 44917. Studies in Dramatic Structure: Goethe and Schiller. 100 Units.

Drama, as theoreticians from Aristotle to Hegel forcefully argued, views the world through the lens of action. But how exactly does action make the world intelligible? In this course we shall consider this question through the close analysis of two (very different) historical plays: Goethe's Egmont and Schiller's Maria Stuart. Since both these plays rely on historical sources, we shall have the opportunity to view dramatic structure against the background of historical events (both factual and mythic). Schiller's theoretical work, centrally his review of Egmont, and Goethe's essays on Shakespeare will provide important analytical reference points, but our discussions will also draw on theoretical work on drama from Hegel to Juliane Vogel. This course provides a unique opportunity for the close study of dramatic structure. Instructor(s): David Wellbery Terms Offered: Spring

Equivalent Course(s): GRMN 36805

### SCTH 45712. Judah Halevi's Kuzari. 100 Units.

Equivalent Course(s): HIJD 45712, ISLM 45712, RLST 25903, FNDL 25903

### SCTH 46011. The Poetry and Prose of Thomas Hardy. 100 Units.

A Victorian and a Modernist, a rare master of the arts of fiction and poetry, Thomas Hardy outraged Victorian proprieties and helped to make 20th century literature in English possible. Close reading of four novels and selected early middle, and late poems by Hardy, with attention to the contexts of Victorian and Modern literary culture and society. Instructor(s): Rosanna Warren Terms Offered: Winter. Course to be taught winter 2020 Note(s): For graduate students and advanced undergraduates.

Equivalent Course(s): ENGL 23708, ENGL 43708, FNDL 26011

### SCTH 47219. The Romantic Book. 100 Units.

In his Gespräch über den Roman, Friedrich Schlegel declared programmatically: "Ein Roman ist ein romantisches Buch." The convoluted relationship between Roman and romantisch will give us the point of departure for the seminar - but is the third term, Buch, so obvious? We will thus also attempt to offer some definitions of what a book is in the period around 1800. To that end, we will consider works that reflect on Romantic scenarios of manuscript and book production (Schreibszenen) and collecting, as well as evolving forms of literary mixed media around 1800, such as the illustrated book and the Taschenbuch. Our readings will include works by F. Schlegel, A. W. Schlegel, Wackenroder and Tieck, Novalis, E. T.A. Hoffmann, Arnim and Brentano, the Grimms, Runge; and scholarly works by Kittler, Campe, Piper, Spoerhase, and others. The seminar will make use of the holdings of the Rare Book Collection and other area resources; and it will introduce students to working with material texts. Good reading knowledge of German required.

Instructor(s): Catriona MacLeod Terms Offered: Spring

Prerequisite(s): Good reading knowledge of German required.

Equivalent Course(s): GRMN 47219, ARTH 47219

SCTH 49702. Reading Descartes's Meditationes de prima Philosophia. 100 Units.

Equivalent Course(s): PHIL 56715, DVPR 54712, THEO 54712

### SCTH 49800. Reading Course: Non Soc Th. 100 Units.

Independent reading course for non-Social Thought graduate students, which are supervised by Social Thought faculty. Terms Offered: Autumn Spring Summer Winter. Recurring every quarter

Prerequisite(s): Consent required.

Note(s): Open only to non-Social Thought Graduate students. Enter section from faculty list on web.

### SCTH 49900. Reading Course: Soc Th. 100 Units.

Independent study/reading course for Social Thought students only.

Terms Offered: Autumn Spring Summer Winter. Recurring every quarter going forward

Prerequisite(s): Open to Social Thought graduate students only. Enter section from faculty list on the web.

### SCTH 50058. Sem: Pragmatism and Religion. 100 Units.

The American philosopher William James is not only one of the founders of pragmatism, but also the inaugurator of a methodological revolution in the empirical study of religion, namely of an approach that deals with religion not so much as a set of doctrines or institutions, but as articulations of intense experiences of self-transcendence. Starting with James's classical work "The Varieties of Religious Experience" of 1902, this class will also deal with the contributions of other pragmatist thinkers to the study of religion - ranging from classical authors (Peirce, Royce, Dewey) to contemporary thinkers (Putnam, Rorty, John Smith) and my own writings in this area.

Equivalent Course(s): SOCI 50081, PHIL 53356, AASR 50081

### SCTH 50087. Max Weber's Sociology of Religion. 100 Units.

Max Weber is perhaps the one undisputed classical figure in the discipline of sociology today. His reputation is to a large extent based on his historical and comparative studies of the "conomic ethics" of the world religions and on the formulation of a systematic approach for the historical-sociological study of religion (in the relevant chapter of his "Economy and Society"). The seminar will start with a close reading of the religion chapter in "Economy and Society" and then continue with selections from his comparative studies. The focus of interest will not only be on Weber's theory, but also on the present state of research on the questions Weber was dealing with.

Instructor(s): H. Joas Terms Offered: Not offered 2013-14

Equivalent Course(s): SOCI 50087, AASR 50087

### SCTH 50200. Seminar: George Herbert Mead. 100 Units.

While George Herbert Mead's work has been a continual inspiration for sociology and social psychology in the last decades, it has not been appreciated in its full extension. The sociological reception has ignored large parts of Mead's philosophical writings; in philosophy Mead is counted among the most important pragmatists, but the revival of interest in pragmatist philosophy has hardly led to new interpretations of his work. This is particularly regrettable since there is considerable potential in his writings for contemporary questions in moral philosophy, the study of temporality, etc. The seminar starts with a close reading of Mead's best-known book Mind, Self, and Society. Since this book is based on notes taken in his classes, we will then continue with some of Mead's essays and selections from his other books. We should reserve some time for discussion about the relationship between Mead and contemporary social thought. Required reading: G. H. Mead, Mind, Self, and Society. University of Chicago Press 1934 (and many later editions); Hans Joas, G. H. Mead. A Contemporary Reexamination of his Thought. MIT Press 1985 and 1997 (second edition). Instructor(s): H. Joas Terms Offered: Not offered 2013-14

Equivalent Course(s): SOCI 50022

### SCTH 50201. New Narratives of Secularization and Sacralization. 100 Units.

TBD

Equivalent Course(s): SOCI 50101, AASR 50201

### SCTH 50204. Destruction of Images, Books & Artifacts in Europe and S. Asia. 100 Units.

The course offers a comparative perspective on European and South Asian iconoclasm. In the European tradition, iconoclasm was predominantly aimed at images, whereas in South Asian traditions it was also enacted upon books and buildings. The combination of these traditions will allow us to extend the usual understanding of iconoclasm as the destruction of images to a broader phenomenon of destruction of cultural artifacts and help question the theories of image as they have been independently developed in Europe and South Asia, and occasionally in conversation with one another. We will ask how and why, in the context of particular political imaginaries and material cultures, were certain objects singled out for iconoclasm? Also, who was considered to be entitled or authorized to commit their destruction? Through a choice of concrete examples of iconoclasm, we will approach the iconoclastic events in Europe and South Asia through the lenses of philology, history, and material culture. Class discussions will incorporate not only textual materials, but also the close collaborative study of images, objects, and film. Case studies will make use of objects in the Art Institute of Chicago and Special Collections at the University Library.

Equivalent Course(s): RLVC 50204, ARTH 40204, CMLT 50204, HREL 50204, CDIN 50204, SALC 50204

### SCTH 50211. Between Theology and Sociology: Ernest Troeltsch, H. Richard Niebuhr, Paul Tillich. 100 Units.

In the history of the scientific study of religion we find intense processes of mutual exchange between sociology and theology. They go far beyond a mere use of the other discipline as a source of information about society or religion. This course deals with three of the most important figures in this intellectual history: Ernest Troeltsch, whose epochal achievements have become overshadowed by the writings of his friend and rival Max Weber; H. Richard Niebuhr, the often neglected younger brother of the famous Reinhold, who, after having written a dissertation on Troeltsch, developed his crucial contributions on American religion and the tensions between "Christ and Culture"; and Paul Tillich who connected German and American intellectual traditions and became one of the most influential theologians ever including his role as inspiration for the lifework of the sociologist Robert Bellah.

Instructor(s): Hans Joas Terms Offered: Autumn. Course taught the first five weeks of the quarter - autumn 2018, twice a week.

Prerequisite(s): Graduate seminar - grads only Equivalent Course(s): SOCI 50107, THEO 50211

### SCTH 50212. Expressivism/Historicism/Hermeneutics. 100 Units.

Since the second half of the 18th Century and in opposition to utilitarian or moral forms of rationalism mostly German thinkers developed an understanding a human action as expression (names "expressivism" by Charles Taylor). This became the basis both for a specific understanding of language, texts, and symbols in general ("hermeneutics") and of human history ("historicism"). In this class, crucial texts from this tradition will be read and discussed: from Herder, Kleist, and Schleiermacher via Dilthey and Troeltsch to Gadamer and the present.

Instructor(s): Hans Joas Terms Offered: Autumn. This course will be taught Autumn 2018 during the first five weeks of the quarter.

Equivalent Course(s): SOCI 50113

### SCTH 50213. Historical Sociology of Religion - After Max Weber and Emile Durkheim. 100 Units.

In the writings of the European classics of sociology the universal history of religion was absolutely crucial. Strangely, and although the reputation of Max Weber and Emile Durkheim has constantly grown over time, this area of their interests later became marginal in the discipline. After briefly suggesting a possible explanation of this phenomenon, this class will deal with the exceptions, scholars who have contributed significantly to the sociological study of the history of religion (H. Richard Niebuhr, Will Herberg, Werner Stark, David Martin Marcel Gauchet, Robert Bellah, Jose Casanova). Additional scholars and my own writings in this area can be included if there is an interest in tracing a tradition that should have received new attention after the end of the intellectual hegemony of the secularization thesis. Instructor(s): Hans Joas Terms Offered: Spring. Course will be taught autumn 2021 Eouivalent Course(s): SOCI 50124. AASR 50213

### SCTH 50300. Heidegger's Concept of Metaphysics. 100 Units.

The two basic texts of the course will be Heidegger's 1929-30 lecture course, "Fundamental Concepts of Metaphysics," and his 1935 course (published in 1953), "Introduction to Metaphysics." Both texts amount to a radical critique of all Western metaphysics, and an equally radical proposal for a new beginning, another sort of "first philosophy." He wants to claim that the finitude of all a priori reflection, when properly appreciated, can inaugurate a proper interrogation of the fundamental question in philosophy: the meaning of being. To familiarize ourselves with Heidegger's overall project, we will begin by reading selections from his 1927 Marburg lectures, "The Basic Problems of Phenomenology. The course is designed for graduate students in philosophy and related disciplines, but some undergraduates with a sufficient background in the history of philosophy will be admitted.

Instructor(s): Robert Pippin Terms Offered: Winter. Course will be taught winter 2021 Note(s): Undergrads by permission of the instructor Equivalent Course(s): PHIL 54806

### SCTH 50301. Heidegger's Critique of German Idealism. 100 Units.

The texts we will read: Heidegger's 1929 book, KANT AND THE PROBLEM OF METAPHYSICS, his 1935 course, published as the book WHAT IS A THING, the critique of Hegel published in 1957, IDENTITY AND DIFFERENCE, and the 1942/43 lectures published as HEGEL'S CONCEPT OF EXPERIENCE. We will conclude with a discussion of Heidegger's 1936 lectures, SCHELLING'S TREATISE ON THE ESSENCE OF HUMAN FREEDOM. The topic of the course: finitude.

Instructor(s): Robert Pippin Terms Offered: Spring. Course will be taught spring 2021

Prerequisite(s): Students who have taken the winter quarter seminar on Heidegger will be given priority, but that is not a necessary condition of admission to the seminar.

Equivalent Course(s): PHIL 51702

### SCTH 50400. Logic, Truth, and Pictures. 100 Units.

The course aims at the logic of pictures, but because it is controversial whether such a topic exists, or should exist at all (some arguing that pictures are alogical, others that they require a logic sui generis), the course will be less a primer in "visual logic" or "logic of artifacts" than a preliminary investigation of what sets pictures apart from and how they are like other modes of thinking. Resemblance, reference, and fiction will be recurring topics; we begin with questions about the nature and peculiarity of pictures and move on to the prospects of arguing about and through pictures, concluding with the questions of their relation to truth. We will actually look at pictures besides talking about them. We will also ask what kind of objects beside conventional two-dimensional images and sculptures might usefully be called pictures. Reading will include classics (Plato, Gombrich), as well as some of the instructor's own work in progress, based on the ideas of Gottlob Frege.

Equivalent Course(s): ARTH 50400

### SCTH 50601. Hegel's Science of Logic. 100 Units.

Hegel's chief theoretical work is called The Science of Logic. An abridged version is the first part of the various versions of his Encyclopedia of the Philosophical Sciences. We shall read and discuss representative passages from both versions, and attempt to understand Hegel's theory of concepts, judgment, and inference, and the place or role of such an account in his overall philosophical position. Several contemporary interpretations of these issues will also be considered. (V) Instructor(s): R. Pippin Terms Offered: Winter

Prerequisite(s): Prior work in Kant's theoretical philosophy is a prerequisite.

Equivalent Course(s): PHIL 50601

### SCTH 50606. Hegel on Logic as Metaphysics. 100 Units.

This course will be an introduction (that is, with no prior knowledge of Hegel presupposed) to what Hegel means by a "science of logic," and why he claims that such a logic should "now" (that is, after Kant), be considered a metaphysics. We will read the "Introduction" and the "Preliminary Conception" in the Encyclopedia version of the Logic (§1-83), the opening passages of the The Science of Logic, and shall conclude with Hegel's discussion of "Life" and "Absolute Idealism" at the end of that Logic.

Equivalent Course(s): PHIL 50605

### SCTH 51114. Acting and Thinking. 100 Units.

An action, according to Aristotle, can be a logical conclusion of thinking. We shall try to understand this claim by reading book 7 of Nicomachean Ethics (we shall discuss Aristotle on practical syllogism, the weakness of the will, the difference between practical and theoretical). We shall proceed to consider the place of these ideas in Kan's First and Second Critique. We shall look at commentaries on the relevant texts by E. Anscombe, J. Dancy, S. Engstrom, J. McDowell, A.W. Price, S. Rodl, and others.

Instructor(s): I. Kimhi Equivalent Course(s): PHIL 51303

### SCTH 51302. The Formation of the Modern Concept of History. 100 Units. Equivalent Course(s): CLAS 48916, CMLT 42916, HIST 52805, PHIL 53102

### SCTH 51401. Spinoza's Psychological Politics. 100 Units.

Spinoza's philosophy is classical in conception, in that it aims to show us how to live wisely. But his ethical interpretation of wisdom is shaped by a psychological account of human affect and a firm sense of the empowering role of politics. To live wisely we have to understand our affects and use them to create co-operative ways of life. At the same time, we have to take account of the ways in which our affects are shaped by political circumstances and ideals. This seminar will examine Spinoza's account of the shifting relations between these variables. Drawing on several of his writings (Ethics, Theologico-Political Treatise, Political Treatise, Correspondence) we shall examine his central conceptions of affect, imagination, understanding, power and politics. Our discussions will also address a sequence of questions. What constructive and destructive roles does imagination play in political life? How is social co-operation related to understanding? How far can Spinoza's conception of imagination help us to develop a compelling theory of ideology? Is politics, as Spinoza conceives it, fundamentally agonistic? What part does politics play in the blessed life envisioned at the end of the Ethics? What makes this way of life more empowering than any other? S. James

Equivalent Course(s): PHIL 57201

### SCTH 51411. Freedom and Love in Psychoanalysis (and Life) 100 Units.

This seminar will take up the idea -- developed after Freud, but influenced by him -- that freedom and love are fundamental values in psychoanalysis. And they are fundamental values of psychoanalysis because they are constitutive of flourishing human life. We shall read carefully articles by Hans Loewald, Paul Gray and Heinz Kohut (as well as articles by Lear and Levenson) that try to show how freedom and love show up in the details of human life, often hidden as such, and how psychoanalytic treatment facilitates their development. We shall concentrate on theory and technique: giving clinical vignettes that give concrete realization to these ideals. Students should have previous acquaintance with the writings of Freud as well as Plato's Symposium. The seminar is open to graduate students in Philosophy and Social Thought as well as to undergraduate majors in Philosophy and Fundamentals. All others require permission of the instructors. Instructor(s): J. Lear and Clinical Prof. L. Levenson (Yale), Visiting Kohut Professor in the Committee on Social Thought. Terms Offered: Spring

Equivalent Course(s): PHIL 51411

### SCTH 51414. Monotheism and its Discontents. 100 Units.

This course will study in the same framework some of the most radical heretics among Jews, Christians, and Muslims across the centuries, from antiquity to the twentieth century: dualists, deniers of prophecy, philosophical deists and atheists. The main purpose of this exercise is to detect similar patterns of rejection of the Abrahamic God, and to search for similarities and differences between such patterns and atheistic trends in other cultures, such as ancient Greece. The study of the different ways in which monotheism was rejected in history might help us identify more precisely core elements of the Abrahamic religions.

Equivalent Course(s): ISLM 51414, HIJD 51414

### SCTH 51415. Envy, Gratitude, Depression and Evasions: The 'Contemporary Kleinians' 100 Units.

In this seminar we shall consider contemporary psychoanalytic thinking on fundamental aspects of human being: envy and gratitude, the capacity to learn from experience, mourning and depression, Oedipal struggles, the structure of the I, the superego and other forms of defense. We shall also consider relevant clinical concepts such as projective identification, splitting, internal objects, the paranoid-schizoid position, the depressive position, and attacks on linking. The seminar will focus on a group of psychoanalytic thinkers who have come to be known as the Contemporary Kleinians. Their work develops the traditions of thinking that flow from the works of Sigmund Freud and Melanie Klein - and we shall consider their writings as well when appropriate. Readings from Betty Joseph, Edna O'Shaughnessy, Wilfrid Bion, Hanna Segal, Elizabeth Spillius, John Steiner, Ronald Britton, Michael Feldman, Irma Brenman Pick and others. Instructor(s): Kay Long and Jonathan Lear Terms Offered: Spring. Course to be taught Spring quarter 2021. Note(s): By permission of instructors.

Equivalent Course(s): PHIL 51416

### SCTH 51720. Plato and Aristotle on Craft and Wisdom. 100 Units.

Plato and Aristotle both made extensive appeal to craft knowledge as a model for theorizing practical and political wisdom. In this seminar we will examine their conceptions of craft and its relation to wisdom. Readings will likely come from Plato's Ion, Gorgias, Republic, and Statesman and Aristotle's Nicomachean Ethics and Metaphysics, (IV) Instructor(s): G. Richardson-Lear Terms Offered: Autumn Equivalent Course(s): PHIL 51715

### SCTH 51721. Topics in Aristotle: Nicomachean Ethics. 100 Units.

A close reading of the Nicomachean Ethics, with particular emphasis on his theory of moral virtue, moral education. (I) Instructor(s): G. Richardson Lear Terms Offered: Autumn Equivalent Course(s): PHIL 51721

### SCTH 53501. Special Topics in Philosophy of Mind: Imagination. 100 Units.

What is imagination, and what functions does our power of imagination have in our lives? The seminar will approach these general questions via more specific ones such as the following. What are the relations between imagining, perceiving, remembering, and dreaming? Does our capacity for imagination play a role in enabling us to perceive? Does imagining something involve forming a mental image or picture of that thing? If not, how should we conceive of the objects of imagination? What is the nature of our engagement with what we imagine, and how does this engagement explain our ability to feel emotions such as fear, pity, and sympathy for imaginary beings? What is the role of imagination or fantasy in structuring our understanding of ourselves and our relations to other persons? Is there such a thing as the virtuous state of the power of imagination? Readings will be drawn from various classic discussions of imagination - e.g., Aristotle, Hume, Kant, Freud, Wittgenstein, Sartre - and from some contemporary sources. (III)

Instructor(s): M. Boyle; J. Lear Terms Offered: Autumn

Prerequisite(s): Graduate students in Philosophy & Social Thought only, except with permission of instructor. Equivalent Course(s): PHIL 53501

### SCTH 55001. Collog: Christian Politics in Medieval & Early Modern Europe. 100 Units.

Is there such a thing as a Christian politics, or does all politics in this world take place-as Augustine put it-under the sign of Cain? If there is a this-worldly Christian politics, what should it look like? What are its ends? Where are its borders? Who is sovereign within those borders, and what are the limits of that sovereignty? These and similar questions were asked by the earliest Christian communities and continue to be asked today. This course will focus on how they were answered in the five hundred years stretching from the Investiture Controversy and the emergence of "Christendom" in the late eleventh and twelfth centuries, continuing with the reintroduction of Aristotelian political theory in Latin Europe, and concluding with Luther and Calvin's reformation of the Christian polity in the sixteenth century.

Equivalent Course(s): HIST 55001, HCHR 46500

### SCTH 55391. Plato on Beauty and Truth. 100 Units.

Plato thinks that beautiful speech is truthful and that truthful speech is, in some way, beautiful. Why does he think this and why does he think it important? Readings will include portions of the Republic, Sophist, and Phaedrus so as to understand the beauty of philosophical dialectic by contrast with the false beauties of (some) poetry and rhetoric. (IV) Instructor(s): G. Lear Terms Offered: Autumn

Equivalent Course(s): PHIL 55391, PHIL 45391

### SCTH 55392. Aristotle#s Politics. 100 Units.

A close reading of this important work of ethical and political theory. Among the topics we will discuss: the relation between the individual and the political community; the relation between private associations and the public, political community; civic virtue: the role of the political community in moral development; slaves and other marginal members of the political community; and the possibility of virtue and happiness in degenerate regimes. (IV)

Instructor(s): G. Lear Terms Offered: Spring

Equivalent Course(s): PHIL 55911

### SCTH 55603. Being and Creation. 100 Units.

The distinction between essence and existence was introduced as part of metaphysical doctrine of creation in Islamic theology. This doctrine cannot be found among the ancient philosophers but became central to the Scholastics. In the seminar we shall read works by Avicenna, Averroes, and Thomas Aquinas. We shall compare Descartes' and Spinoza's receptions of the creation doctrine. I will propose that central concepts of contemporary philosophy such states of affairs or facts and notions of the mind and of the world that go with them can be traced to the doctrine of creation. Instructor(s): I. Kimhi Terms Offered: Autumn

Equivalent Course(s): PHIL 51114

### SCTH 55604. Metaphysics: Substance, Subject, Freedom. 100 Units.

A graduate seminar devoted to the dual notions of 'substance' and 'subject' which are associated respectively with the ideas of nature and of freedom. We shall look at some of the transformations that the concept of 'ousia' undergoes through the history of philosophy from Aristotle to Kant and German idealism. Equivalent Course(s): PHIL 55604

### SCTH 55605. The Life and Acts of a Being that Says 'I' 100 Units.

The being we will study in this course is a subject of thinking/judging and therefore in a sense, all things (Aristotle, De Anima), at the same time she is a determinable substance whose determinations include moods, sensations, feelings, intentions, actions. We shall explore the apparent tension between these two descriptions of our being - as a subject-being and as a substance-being - and search for an understanding that resolves it. Readings include sections from: Aristotle, Kant, Hegel. Sartre, Heidegger, Wittgenstein.

Equivalent Course(s): PHIL 55605

### SCTH 55606. The Concept of Anxiety. 100 Units.

Anxiety is discussed in modern philosophy as a mood or feeling which reveals 'nothing'. The class will be devoted to the modern philosophical discourse on "anxiety" and "nothing". Among the texts that we shall study are: Kierkegaard's 'The concept of Anxiety', Heidegger's 'Introduction to Metaphysics', and Sartre's 'Being and Nothingness'. We shall also compare the philosophical concern with anxiety/nothing with the discussion of anxiety in psychoanalysis, especially in Lacan's Seminar 'Anxiety' i.e., seminar 10.

Instructor(s): I. Kimhi Terms Offered: Spring Equivalent Course(s): PHIL 55606

### SCTH 58500. The Middle Ages in Midcentury Thought. 100 Units.

This seminar will explore the role of the Middle Ages (its literature, art, philosophy, theology) in the intellectual culture of the years during and just after WWII. Readings will pair midcentury thinkers with their medieval interlocutors. For example, Simone Weil will be read alongside texts in the tradition of medieval mysticism; Hannah Arendt, alongside Augustine. Other intellectual figures may include: Erich Auerbach, Ernst Robert Curtius, Norbert Elias, Franz Fanon, Ernst Kantorowicz, Paul Zumthor, Erwin Panofsky, Leo Spitzer, Hans-Georg Gadamer, and Johan Huizinga. (Med/Ren, 20th/21st) Instructor(s): Benjamin Saltzman Terms Offered: Spring

Equivalent Course(s): ENGL 58500, GRMN 48519

### SCTH 59400. Realism, Social Modernism: Aesthetics and Politics Between the Wars. 100 Units.

The theoretical influence of arguments in the 1920s and 1930s about the relative value of realism and modernism is well known, but the entwinement of theory with cultural production and political debates is less so. This intensive reading course will attempt to historicize theory between the world wars--or more specifically between Bolshevik and German revolutionary responses to the first war and Popular Front againt the rise of Fascism leading to the second--by revaluating the work relatively familiar theorists such as Benjamin, Lenin, and esp. Lukacs in the light of their interlocutors, in fiction, film, and drama Brecht, Gladkov, Gorki, Pudovkin, Eisenstein, Dovzhenko, Seghers, Sholokhov, Christa Wolf, Konrad Wolf, Frank Beyer and their counterparts in America, the Living Newspaper, Film and Photo League, writers for New Masses as well as in theory Bloch, Eisler, Zhdanov, Kenneth Burke, Mike Gold, John Howard Lawson, among others. Essential texts are available in English but working knowledge of German (or Russian) and/or marxist theory very helpful. Instructor(s): Loren Kruger Terms Offered: Autumn

Equivalent Course(s): CMLT 59400, CMST 67100, ENGL 59401, GRMN 43700, TAPS 59400

### SCTH 59900. Dissertation Research: Soc Th. 100 Units.

Dissertation research.

Terms Offered: Autumn Spring Summer Winter. Recurring every quarter going forward Prerequisite(s): Admission to Candidacy or Consent of Instructor. Enter section from faculty list on the web.

### SCTH 70000. Advanced Study: Social Thought. 300.00 Units.

Advanced Study: Social Thought

### SCTH 75005. Thesis Proposal Workshop. 100 Units.

Required course for 3rd year Social Thought students to learn about thesis/proposal writing which is a roadmap for dissertation writing.

Instructor(s): Andrei Pop Terms Offered: Spring. Course taught in the spring



### Department of Sociology

### Chair

Karin Knorr

### Professors

- Andrew Abbott
- Luc Anselin
- Neil Brenner
- Kathleen A. Cagney, Health Studies
- Terry N. Clark
- Elisabeth S. Clemens
- James A. Evans
- Andreas Glaeser
- Julian Go
- Karin Knorr Cetina, Anthropology
- John Levi Martin
- Stephen W. Raudenbush
- Ross M. Stolzenberg
- Linda Waite
- Kazuo Yamaguchi
- Dingxin Zhao

Associate Professors

- Joyce Bell
- Kimberly Hoang
- Omar M. McRoberts
- Kristen Schilt
- Jenny Trinitapoli
- Geoffrey Wodtke
- Assistant Professors
- Rene Flores
- Marco Garrido
- Robert Vargas

Visiting Professor

Hans Joas, Social Thought

Emeritus Faculty

- Ed Laumann
- William L. Parish
- Richard Taub

Associated Faculty

- Patrick Bergemann
- Luis Bettencourt
- Chad Broughton, Public Policy
- Ronald S. Burt, Business
- Angela Garcia, School of Social Service Administration
- Sharon Hicks-Bartlett
- Gary Herrigel, Political Science
- Guanglei Hong, Comparative Human Development
- Nicole Marwell, School of Social Service Administration

- John Padgett, Political Science
- · Amanda Sharkey, Organizations and Markets

### Overview

The Department of Sociology, established in 1893 by Albion Small and Charles A. Henderson, has been centrally involved in the history and development of the discipline in the United States. The traditions of the Chicago School were built by pioneers such as W. I. Thomas, Robert E. Park, Ernest W. Burgess, and William F. Ogburn. It is a tradition based on the interaction of sociological theory with systematic observation and the analysis of empirical data; it is interdisciplinary, drawing on theory and research from other fields in the social sciences and the humanities; it is a tradition which seeks to fuse together concern with the persistent issues of social theory and attention to the pressing social and policy problems of modern society.

Continuous developments in social research have marked the department's work in recent years. The department has pursued a balance in effort between individual scholarship and the development of group research approaches. Faculty members have been engaged in the development of systematic techniques of data collection and in the statistical and mathematical analysis of social data. Field studies and participant observation have been refined and extended. There has been an increased attention to macrosociology, to historical sociology, and to comparative studies. The staff is engaged in individual and large scale group projects which permit graduate students to engage in research almost from the beginning of their graduate careers. The student develops an apprenticeship relation with faculty members in which the student assumes increasing amounts of independence as he or she matures.

#### Research

The study of sociology at the University of Chicago is greatly enhanced by the presence of numerous research enterprises engaged in specialized research. Students often work in these centers pursuing collection and study of data with faculty and other center researchers. Students have the opportunity for experience in the following research enterprises: the Ogburn-Stouffer Center for the Study of Social Organizations; the Population Research Center; the Committee on Demographic Training; NORC Research Centers; the Center for the Study of Gender and Sexuality; the Center for the Study of Race, Culture, and Politics; the Chicago Center for Contemporary Theory; the University of Chicago Urban Network; the Center for Health Administration Studies; the Rational Choice Program; and the Center on Demography and Economics of Aging. These provide an opportunity either for field work by which the student brings new primary data into existence or for the treatment of existing statistical and other data. The city of Chicago provides opportunities for a variety of field investigations, and the department also encourages cross national and foreign studies.

The Social Sciences has a strong tradition of comparative and international research, with area studies centers focused on East Asia, South Asia, the Middle East, Latin America, and Eastern Europe and Russia. In addition, graduate students may benefit from activities at the University of Chicago centers in Paris and Beijing as well as the deep roster of language training opportunities available on campus. There are equally diverse training opportunities and infrastructure to support quantitative research including the Survey Laboratory, the training program in Demography, course offerings in Statistics and a number of professional schools as well as a growing interdisciplinary community in computational research methods.

### Admission

The Department of Sociology offers a program of studies leading to the Ph.D. degree. It does not have a master's degree program (students interested in a one-year master's program should consider the Divisional Master of Arts Program in the Social Sciences or MAPSS). Students ordinarily earn a master's degree as part of the Ph.D. program upon successful completion of the first year of coursework and the preliminary examination. The department welcomes students who have done their undergraduate work in other social sciences and in fields such as mathematics, biological sciences, and the humanities. The department also encourages students who have had work experience, governmental or military service, or community and business experience to apply.

All applicants for admission are required to submit Graduate Record Examination (GRE) General Test scores. Foreign students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). A writing sample is required for all applications.

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines, and department specific information is available online at https://apply-ssd.uchicago.edu/apply/.

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415. Most materials in support of the application can be uploaded through the application.

For additional information about the Sociology program, please see http://sociology.uchicago.edu/ or call (773) 702-8677.

### The Degree of Doctor of Philosophy

The doctoral program is designed to be completed in five to seven years of study by a student entering with a bachelor's degree. Satisfactory completion of the first phase of the Ph.D. program also fulfills the program requirements for the M.A. degree.

#### Common core course requirements

To complete the requirements for the M.A. and Ph.D. degrees, students are required to complete a set of required courses for credit in the first phase of the program. These include SOCI 30002 Principles of Sociological Research, and SOCI 30003 History of Social Theory. First-year students are required to register for SOCI 60020 1st-Year Proseminar Research Questions and Design, a non-credit colloquium, in Autumn, Winter, and Spring. Also required is SOCI 30006 Second-Year Writing Seminar-I and SOCI 30007 Second-Year Writing Seminar-II in Winter and Spring of both the second and third years of study.

### Statistics requirement

Students seeking the doctorate are also required to complete SOCI 30004 Statistical Methods of Research and SOCI 30005 Statistical Methods of Research-II during the first year. The department approves alternative sequences during the first year for students with strong preparation in statistics or mathematics. All students, however, are to take two courses in statistics in the first year of study.

#### M.A. examinations

First-year Ph.D. students are required to take a total of five sociology (SOCI) courses designated as "exam courses" among their nine graded courses; designated exam courses will vary from year to year. The courses are divided into ten topic areas. Students are required to take SOCI 30003 History of Social Theory as their first exam course. For the remaining four courses, students select ONE course each from four additional subject areas. Students are not allowed to count multiple courses from the same subject area or to substitute in courses that are not on the list of designated exam courses for their cohort year.

### The qualifying paper

The qualifying paper should represent an original piece of scholarship or theoretical analysis and must be written in a format appropriate for submission to a professional publication. Note that the requirement is "publishable," not "published," although many recent papers have been presented at professional conferences and eventually published. The paper is prepared under the direct supervision and approval of a faculty member and may be written or revised in connection with one or more regular courses. Students entering with M.A. papers may petition to submit an supervised revision to meet the qualifying paper requirement.

### Special field requirement

Ph.D. students are required to demonstrate competence in two special fields of sociological inquiry. The Special Field Requirement is to be met during the third year of graduate study. Students must pass the M.A. Examinations at the Ph.D. level before meeting the Special Field Requirement. This requirement may be met in three ways: by examination, with a review essay, or through a specified sequence of methods courses. Both the examination and review essay options are prepared on an individual basis, overseen by two faculty readers, in the fields of sociology in which the student wishes to develop research competence; one should be related to the subject of the subsequent Ph.D. dissertation. Special Fields cover both theoretical and substantive materials as well as the methods required for effective research. Preparation takes the form of specialized courses and seminars, supplemented by independent study and reading. For either an exam or essay, the student must first construct a bibliography to be approved by both faculty readers; readers must also agree in advance to either the examination or review essay format. The fields most commonly taken are urban sociology, organizational analysis, sociology of gender, sociology of education, culture/STS/knowledge, sociology of health and medicine, economic sociology, political sociology, stratification, social movements/change, and sociology of religion. One of the two special field requirements may be met with a sequence of courses. Three types of special fields in methodology are recognized: (1) social statistics, (2) survey research methods, and (3) qualitative methods.

#### Dissertation

The student prepares a research plan under the guidance of a designated faculty committee. The plan is subject to review by the faculty committee organized by each student to determine whether the project is feasible and to assist in the development of research. Upon approval of the dissertation proposal (by the first quarter of the fifth year of study) and completion of the other requirements listed above, the department recommends that the Division of the Social Sciences formally admit the student to candidacy for the Ph.D. degree. When the dissertation is completed, an oral examination is held on the dissertation and the field to which it is related.

### Teaching Opportunities

The Department of Sociology offers opportunities for campus teaching which give graduate students increasing responsibility for classroom instruction. After completing the second year of study, students may apply to the department to become teaching assistants with the opportunity to discuss course design, teach under supervision of a faculty member, and review student work. There are also opportunities to teach in the social science courses included in the College Core Curriculum. Typically, students apply for positions as teaching interns in their  $3^{rd}$  or  $4^{th}$  year. Upon successful completion of an internship, graduate students are eligible for consideration as independent instructors of College level courses. Note that offers of admission and fellowship include a teaching requirement and that completion of a specified number of teaching appointments is a divisional requirement for the doctorate.

### Graduate Workshops

Students in sociology are invited to participate in the program of Graduate Workshops in the Humanities and Social Sciences, a series of interdepartmental discussion groups that bring faculty and advanced graduate students together to

discuss their current work. At the workshops, Chicago faculty and students or invited guests present portions of books or other projects in which they are currently engaged. Workshops in which students and faculty in the department participate include those addressed to the following topics: City, Society, and Space; Computational Social Science; Demography; East Asia: Politics, Economy, and Society; Education, Gender and Sexuality; History, Philosophy, and Sociology of Science; Money, Markets, and Consumption; Reproduction of Race and Racial Ideology; Semiotics: Culture in Context; and Social Theory and Evidence.

### Sociology Courses

### SOCI 30002. Principles of Sociological Research. 100 Units.

Explores how theoretical questions and different types of evidence inform decisions about methodological approach and research design. This course is required for first year Sociology PhD students.

Instructor(s): J. Trinitapoli Terms Offered: Autumn

Prerequisite(s): Open only to 1st year Sociology PhD students

### SOCI 30003. History of Social Theory. 100 Units.

This course is an introduction to sociological theory. It will cover Marx, Weber, Durkheim, Simmel, Mead, Dewey, the Chicago School, Bourdieu, and possibly others.

Instructor(s): A. Glaeser Terms Offered: Spring

Prerequisite(s): Open only to 1st-year Sociology Phd students

### SOCI 30004. Statistical Methods of Research. 100 Units.

This course provides a comprehensive introduction to widely used quantitative methods in sociology and related social sciences. Topics include analysis of variance and multiple regression, considered as they are used by practicing social scientists.

Instructor(s): S. Raudenbush Terms Offered: Winter

Prerequisite(s): Priority registration for Ugrad Sociology majors and Sociology PhD students. No prior instruction in statistical analysis is required. Others by consent of instructor.

Note(s): Students are expected to attend two lectures and one lab per week. Required of students who are majoring in Sociology

Equivalent Course(s): SOCI 20004

### SOCI 30005. Statistical Methods of Research-II. 100 Units.

Social scientists regularly ask questions that can be answered with quantitative data from a population-based sample. For example, how much more income do college graduates earn compared to those who do not attend college? Do men and women with similar levels of training and who work in similar jobs earn different incomes? Why do children who grow up in different family or neighborhood environments perform differently in school? To what extent do individuals from different socioeconomic backgrounds hold different types of political attitudes and engage in different types of political behavior? This course explores statistical methods that can be used to answer these and many other questions of interest to social scientists. The main objectives are to provide students with a firm understanding of linear regression and generalized linear models and with the technical skills to implement these methods in practice.

Instructor(s): G. Wodtke Terms Offered: Spring

Prerequisite(s): SOCI 30004

### SOCI 30006. Second-Year Writing Seminar-I. 50 Units.

A required seminar that will meet over two quarters. Doctoral students in Sociology are required to take this seminar in both their second and third years. Second-year students will focus on developing a project for their Qualifying Paper. Third-year students will start from a completed Qualifying Paper and revise it for presentation at professional meetings and possible publication. Some students may move on to developing grant proposals or a first draft of a dissertation proposal. Instructor(s): E. Clemens Terms Offered: Winter

Prerequisite(s): Sociology PhD students only

### SOCI 30007. Second-Year Writing Seminar-II. 50 Units.

A required seminar that will meet over two quarters. Doctoral students in Sociology are required to take this seminar in both their second and third years. Second-year students will focus on developing a project for their Qualifying Paper. Third-year students will start from a completed Qualifying Paper and revise it for presentation at professional meetings and possible publication. Some students may move on to developing grant proposals or a first draft of a dissertation proposal. Instructor(s): E. Clemens Terms Offered: Spring

Prerequisite(s): Sociology PhD students only

### SOCI 30103. Social Stratification. 100 Units.

Social stratification is the unequal distribution of the goods that members of a society value - earnings, income, authority, political power, status, prestige etc. This course introduces various sociological perspectives about stratification. We look at major patterns of inequality throughout human history, how they vary across countries, how they are formed and maintained, how they come to be seen as legitimate and desirable, and how they affect the lives of individuals within a society. The readings incorporate classical theoretical statements, contemporary debates, and recent empirical evidence. The information and ideas discussed in this course are critical for students who will go on in sociology and extremely useful for students who want to be informed about current social, economic, and political issues.

Instructor(s): R. Stolzenberg Terms Offered: Winter Equivalent Course(s): SOCI 20103

### SOCI 30104. Urban Structure and Process. 100 Units.

This course reviews competing theories of urban development, especially their ability to explain the changing nature of cities under the impact of advanced industrialism. Analysis includes a consideration of emerging metropolitan regions, the microstructure of local neighborhoods, and the limitations of the past American experience as a way of developing urban policy both in this country and elsewhere.

Instructor(s): M. Garrido Terms Offered: Spring

Equivalent Course(s): CRES 20104, GEOG 22700, ENST 20104, GEOG 32700, SOCI 20104, SOSC 25100, ARCH 20104

### SOCI 30106. Political Sociology. 100 Units.

This course provides analytical perspectives on citizen preference theory, public choice, group theory, bureaucrats and statecentered theory, coalition theory, elite theories, and political culture. These competing analytical perspectives are assessed in considering middle-range theories and empirical studies on central themes of political sociology. Local, national, and crossnational analyses are explored. The course covers readings for the Sociology Ph.D. Prelim exam in political sociology. Instructor(s): T. Clark Terms Offered: Soring

Prerequisite(s): Completion of the general education requirement in the social sciences

Equivalent Course(s): SOCI 20106, PBPL 23600, ENST 23500

### SOCI 30112. Applications of Hierarchical Linear Models. 100 Units.

A number of diverse methodological problems such as correlates of change, analysis of multi-level data, and certain aspects of meta-analysis share a common feature-a hierarchical structure. The hierarchical linear model offers a promising approach to analyzing data in these situations. This course will survey the methodological literature in this area, and demonstrate how the hierarchical linear model can be applied to a range of problems.

Instructor(s): S. Raudenbush Terms Offered: Spring

Prerequisite(s): Applied statistics at a level of multiple regression

Equivalent Course(s): EDSO 30112, PPHA 44650, SOCI 20112

### SOCI 30116. Global-Local Politics. 100 Units.

Globalizing and local forces are generating a new politics in the United States and around the world. This course explores this new politics by mapping its emerging elements: the rise of social issues, ethno-religious and regional attachments, environmentalism, gender and life-style identity issues, new social movements, transformed political parties and organized groups, and new efforts to mobilize individual citizens.

Instructor(s): T. Clark Terms Offered: Winter

Equivalent Course(s): HMRT 20116, SOCI 20116, GEOG 30116, GEOG 20116, HMRT 30116, PBPL 27900, LLSO 20116

### SOCI 30118. Survey Research Overview. 100 Units.

The course provides an overview of interview-based data collection methods. Each student must develop a research question to guide their research design. Students get an overview of different interview-based data collection methods (focus groups, key-informant interviews, large-N sample surveys), how to sample and design a questionnaire or interview guide for their project, and the nuts and bolts of actual recruitment, receipt control and survey administration. The instructor provides feedback for proposed elements of each student's research plan through weekly assignments. The final paper is a research proposal that outlines a plan for research to address the student's research question. Instructor(s): M. Van Haitsma Terms Offered: Autumn Winter, entativley

Equivalent Course(s): MAPS 30900, SOSC 30900

### SOCI 30120. Urban Policy Analysis. 100 Units.

This course addresses the explanations available for varying patterns of policies that cities provide in terms of expenditures and service delivery. Topics include theoretical approaches and policy options, migration as a policy option, group theory, citizen preference theory, incrementalism, economic base influences, and an integrated model. Also examined are the New York fiscal crisis and taxpayer revolts, measuring citizen preferences, service delivery, and productivity.

Instructor(s): T. Clark Terms Offered: Autumn

Equivalent Course(s): SOCI 20120, GEOG 20120, GEOG 30120, PBPL 24800

### SOCI 30125. Rational Foundations of Social Theory. 100 Units.

This course introduces conceptual and analytical tools for the micro foundations of macro and intermediate-level social theories, taking as a basis the assumption of rational action. Those tools are then used to construct theories of power, social exchange, collective behavior, socialization, trust, norm, social decision making and justice, business organization, and family organization.

Instructor(s): K. Yamaguchi Terms Offered: Spring Equivalent Course(s): SOCI 20125

### SOCI 30179. Labor Force and Employment. 100 Units.

This course introduces key concepts, methods, and sources of information for understanding the structure of work and the organization of workers in the United States and other industrialized nations. We survey social science approaches to answering key questions about work and employment, including: What is the labor force? What determines the supply of workers? How is work organized into jobs, occupations, careers, and industries? What, if anything, happened to unions? How much money do workers earn and why? What is the effect of work on health? How do workers and employeers find each other? Who is unemployed? What are the employment effects of race, gender, ethnicity, and religion? Instructor(s): R. Stolzenberg Terms Offered: Spring

Equivalent Course(s): SOCI 20179

### SOCI 30192. The Effects of Schooling. 100 Units.

From at least the Renaissance until some time around the middle of the twentieth century, social class was the pre-eminent, generalized determinant of life chances in European and, eventually, American societies. Social class had great effect on one's social standing; economic well-being; political power; access to knowledge; and even longevity, health, and height. In that time, there was hardly an aspect of life that was not profoundly influenced by social class. In the ensuing period, the effects of social class have receded greatly, and perhaps have even vanished. In their place formal schooling has become the great generalized influence over who gets access to the desiderata of social life, including food, shelter, political power, and medical care. So it is that schooling is sociologically interesting for reasons that go well beyond education. The purpose of this course is to review what is known about the long-term effects of schooling.

Instructor(s): R. Stolzenberg Terms Offered: Spring

Equivalent Course(s): SOCI 20192, EDSO 20192, EDSO 30192

### SOCI 30224. Topics in Sociology of Culture. 100 Units.

This class surveys the historical bases and current extension of core readings in the sociology of culture. These works will be investigated not only in their own terms, but their position in central issues revolving around the independence (or lack of same) of cultural production communities; the omnivore/unibrow question; the role of culture in larger (and smaller) political and social environments; the use of hierarchical as opposed to non-hierarchical models of social structure; and the location of meaning.

Instructor(s): T. Clark Terms Offered: Spring

### SOCI 30233. Race in Contemporary American Society. 100 Units.

This survey course in the sociology of race offers a socio-historical investigation of race in American society. We will examine issues of race, ethnic and immigrant settlement in the United States. Also, we shall explore the classic and contemporary literature on race and inter-group dynamics. Our investigative tools will include an analysis of primary and secondary sources, multimedia materials, photographic images, and journaling. While our survey will be broad, we will treat Chicago and its environs as a case study to comprehend the racial, ethnic, and political challenges in the growth and development of a city.

Instructor(s): S. Hicks-Bartlett Terms Offered: Autumn Spring. Autumn quarter offered at the Undergraduate level only and Spring offered at the Graduate level only

Equivalent Course(s): CRES 20233, MAPS 30233, SOCI 20233

### SOCI 30253. Introduction to Spatial Data Science. 100 Units.

Spatial data science consists of a collection of concepts and methods drawn from both statistics and computer science that deal with accessing, manipulating, visualizing, exploring and reasoning about geographical data. The course introduces the types of spatial data relevant in social science inquiry and reviews a range of methods to explore these data. Topics covered include formal spatial data structures, geovisualization and visual analytics, rate smoothing, spatial autocorrelation, cluster detection and spatial data mining. An important aspect of the course is to learn and apply open source software tools, including R and GeoDa.

Instructor(s): L. Anselin and M. Kolak Terms Offered: Autumn

Prerequisite(s): STAT 22000 (or equivalent), familiarity with GIS is helpful, but not necessary Equivalent Course(s): GEOG 30500, ENST 20510, GEOG 20500, SOCI 20253, MACS 54000

### SOCI 30264. Wealth. 100 Units.

Wealth is the value of a person's accumulated possessions and financial assets. Wealth is more difficult for social researchers to measure than earnings and income, and wealthy people are notoriously uncooperative with efforts to study them and their assets. Further, wealth data conveys less information than income data about the lives of the middle- and lower-classes -- who tend to have little or no wealth at all. However, information about wealth gives fundamentally important insight into the values, attitudes, behavior, consumption patterns, social standing, political power, health, happiness and yet more characteristics of individuals and population subgroups. This course considers the causes and consequences of wealth accumulation for individuals, the social groups to which they belong, and the societies in which they dwell. Instructor(s): R. Stolzenberg Terms Offered: Winter

Equivalent Course(s): SOCI 20264

### SOCI 30279. Historical Sociology of Racism Latin America. 100 Units.

The course will examine the discourse on race, racism, and racial inequalities through the available sociological literature. Special emphasis will be placed on the emergency of social movements and collective agencies that have shaped the present racial order in the region. This course will first present how racialization processes intermingled with the formation of mestizo nation-states in Latin America, and, by doing so, establishing racial democracy as the corner stone of modern democracies (1920s to 1960s). Second, examine how authoritarian regimes promoted economic development but were incapable of curtailing social inequalities in the region, eventually dismantling the international perception of these countries as racial democracies (1960s to 1980s). And, finally, explore how processes of racial formation operated in the whole region, giving way to the formation of multiracial nations and to the visibility of racism as a structural component of these societies (1990s to 2010s).

Instructor(s): Antonio Sergio Guimarães Terms Offered: Spring

Equivalent Course(s): CRES 25118, PPHA 37005, LACS 25118, LACS 35118, SOCI 20279

### SOCI 30283. Introduction to GIS and Spatial Analysis. 100 Units.

This course provides an introduction and overview of how spatial thinking is translated into specific methods to handle geographic information and the statistical analysis of such information. This is not a course to learn a specific GIS software program, but the goal is to learn how to think about spatial aspects of research questions, as they pertain to how the data are collected, organized and transformed, and how these spatial aspects affect statistical methods. The focus is on research questions relevant in the social sciences, which inspires the selection of the particular methods that are covered. Examples include spatial data integration (spatial join), transformations between different spatial scales (overlay), the computation of 'spatial' variables (distance, buffer, shortest path), geovisualization, visual analytics, and the assessment of spatial autocorrelation (the lack of independence among spatial variables). The methods will be illustrated by means of open source software such as QGIS and R.

Instructor(s): M. Kolak Terms Offered: Spring. Offered 2020-21

Equivalent Course(s): ENST 28702, GEOG 28702, SOCI 20283, GEOG 38702, ARCH 28702

### SOCI 30315. Introduction to Causal Inference. 100 Units.

This course is designed for graduate students and advanced undergraduate students from the social sciences, education, public health science, public policy, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The goal of this course is to equip students with basic knowledge of and analytic skills in causal inference. Topics for the course will include the potential outcomes framework for causal inference; experimental and observational studies; identification assumptions for causal parameters; potential pitfalls of using ANCOVA to estimate a causal effect; propensity score based methods including matching, stratification, inverse-probability-of-treatment-weighting (IPTW), marginal mean weighting through stratification (MMWS), and doubly robust estimation; the instrumental variable (IV) method; regression discontinuity design (RDD) including sharp RDD and fuzzy RDD; difference in difference (DID) and generalized DID methods for cross-section and panel data, and fixed effects model. Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 is a prerequisite. This course is a prerequisite for 'Advanced Topics in Causal Inference' and 'Mediation, moderation, and spillover effects.' Instructor(s): G. Hong Terms Offered: Winter

Prerequisite(s): Intermediate Statistics or equivalent such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 Note(s): CHDV Distribution: M; M

Equivalent Course(s): PLSC 30102, CHDV 30102, MACS 51000, STAT 31900, PBHS 43201

### SOCI 30319. Ethnographic Approaches to Gender and Sexuality. 100 Units.

This methods course aims to prepare graduate students and advanced undergraduates for ethnographic research on topics focused on gender and sexuality. We will read articles and books showcasing ethnographic methodologies, and we will discuss benefits and limitations of various research designs. Class debates will cover epistemological, ethical, and practical matters in ethnographic research. We will discuss issues of positionality, self-reflexivity, and power. Students will be required to formulate a preliminary research question at the beginning of the course, and will conduct a few weeks of ethnographic research in a field site of their choosing. Each week students will produce field notes to be exchanged and discussed in class, and as a final project they will be asked to produce a research proposal or a short paper based on their observations.

Instructor(s): Cate Fugazzola Terms Offered: Autumn Winter Equivalent Course(s): MAPS 33503, GNSE 33505, GNSE 23505

#### SOCI 30320. Conceptual Tools for Quantitative Research. 100 Units.

The main purpose for designing this course is to provide instruction on core principles of quantitative research methodology in the social sciences. This course will equip graduate students with the conceptual tools of quantitative research that form the foundation for data management, data analysis and inference. We will examine a series of topics related to measurement, sampling, hypothesis development, data structure and model interpretation which scholars would encounter when designing any project that uses quantitative data for empirical research. My main target audience is graduate students enrolled in the Masters Program in Social Sciences who will be using quantitative research techniques for their MS thesis project. Students enrolled in this course are expected to have taken at least one upper-level undergraduate course in multiple linear regression analysis. Students who are not planning to use quantitative methods in the future can also enroll in this course to develop proficiency in reading research publications and scholarly reports that use quantitative tools.

Instructor(s): Amit Anshumali Terms Offered: Spring

Equivalent Course(s): SOSC 26010, MAPS 31760

### SOCI 30324. Muslims in the United State and Western Europe. 100 Units.

Muslim migration to the United States and Western Europe proliferated in the last quarter of the 20th Century, and Islam has been a visible (and controversial) presence in these societies ever since. Though internally varied by race, ethnicity, national origins, sect and class positionality, Muslim communities have faced homogenizing narratives rooted in orientalist frameworks. As Islam continues to be a site of conflict in geopolitical struggles, these frameworks have reproduced themselves into the twenty-first century. This course will use an intersectional and critical lens to examine the issues facing Muslims in the United States and Western Europe on both macro and micro levels. One third of the course will cover the interactions between Muslim communities and their 'host societies' vis-à-vis the state, mass media, and public opinion. Another third of the course will delve into issues of socioeconomic mobility and cultural assimilation, Finally, the last third will show how these macro concepts influence the everyday lived experiences of Muslims in these contexts. This is a seminar-style, reading-heavy course. Students should be familiar with and capable of deploying the sociological concepts of race, class, gender and intersectionality.

Instructor(s): E. Abdelhadi Terms Offered: Autumn Spring

Note(s): Grad: B, C

Equivalent Course(s): CHDV 38990, CRES 38990, ISLM 38990, GNSE 38990, CHDV 28990

### SOCI 40112. Ethnographic Methods. 100 Units.

This course explores the epistemological and practical questions raised by ethnography as a method -- focusing on the relationships between theory and data, and between researcher and researched. Discussions are based on close readings of ethnographic texts, supplemented by occasional theoretical essays on ethnographic practices. Students also conduct original field research., share and critique each other's field notes on a weekly basis, and produce analytical papers based on their ethnographies.

Instructor(s): O. McRoberts Terms Offered: Winter Note(s): Graduate students only

### SOCI 40133. Computational Content Analysis. 100 Units.

A vast expanse of information about what people do, know, think, and feel lies embedded in text, and more of the contemporary social world lives natively within electronic text than ever before. These textual traces range from collective activity on the web, social media, instant messaging and automatically transcribed YouTube videos to online transactions, medical records, digitized libraries and government intelligence. This supply of text has elicited demand for natural language processing and machine learning tools to filter, search, and translate text into valuable data. The course will survey and practically apply many of the most exciting computational approaches to text analysis, highlighting both supervised methods that extend old theories to new data and unsupervised techniques that discover hidden regularities worth theorizing. These will be examined and evaluated on their own merits, and relative to the validity and reliability concerns of classical content analysis, the interpretive concerns of qualitative content analysis, and the interactional concerns of conversation analysis. We will also consider how these approaches can be adapted to content beyond text, including audio, images, and video. We will simultaneously review recent research that uses these approaches to develop social insight by exploring (a) collective attention and reasoning through the content of communication; (b) social relationships through the process of communication; and (c) social state

Instructor(s): James Evans Terms Offered: Spring

Equivalent Course(s): CHDV 30510, MACS 60000

### SOCI 40164. Involved Interviewing: Strategies for Interviewing Hard to Penetrate Communities and Populations. 100 Units.

Imagine that you must interview someone who hails from a background unlike your own; perhaps you need to interview an incarcerated youth, or gather a life history from an ill person. Maybe your task is to conduct fieldwork inside a community that challenges your comfort level. How do we get others to talk to us? How do we get out of our own way and limited training to become fully and comfortably engaged in people and the communities in which they reside? This in-depth investigation into interviewing begins with an assumption that the researcher as interviewer is an integral part of the research process. We turn a critical eye on the interviewer's role in getting others to talk and learn strategies that encourage fertile interviews regardless of the situational context. Weekly reading assignments facilitate students' exploration of what the interview literature can teach us about involved interviewing. Additionally, we critically assess our role as interviewer and what that requires from us. Students participate in evaluating interview scenarios that are designed to explore our assumptions, sharpen our interviewing skills and troubleshoot sticky situations. We investigate a diversity of settings and populations as training ground for leading effective interviews. The final project includes: 1) a plan that demonstrates knowledge of how to design an effective interviewing strategy for unique field settings; 2) instructor's feedback on students' personal journals on the role of.

Instructor(s): S. Hicks-Bartlett Terms Offered: Autumn Winter

Prerequisite(s): Advanced Undergraduates MUST obtain permission from instructor to enroll. Equivalent Course(s): MAPS 40164

### SOCI 40176. Computing for the Social Sciences. 100 Units.

This is an applied course for social scientists with little-to-no programming experience who wish to harness growing digital and computational resources. The focus of the course is on generating reproducible research through the use of programming languages and version control software. Major emphasis is placed on a pragmatic understanding of core principles of programming and packaged implementations of methods. Students will leave the course with basic computational skills implemented through many computational methods and approaches to social science; while students will not become expert programmers, they will gain the knowledge of how to adapt and expand these skills as they are presented with new questions, methods, and data. More information can be found at https://cfss.uchicago.edu

Instructor(s): Benjamin Soltoff Terms Offered: Autumn

Note(s): MACS students have priority.

Equivalent Course(s): MACS 30500, CHDV 30511, ENST 20550, MAPS 30500, SOCI 20278, MACS 20500, PLSC 30235

### SOCI 40177. Coding & Analyzing Qualitative Data: Using Open-Source Computer Asst. Qualitative Data Analysis. 100 Units.

This is a graduate-level course in coding and analyzing qualitative data (e.g., interview transcripts, oral histories, focus groups, letters, and diaries, etc). In this hands-on-course students learn how to organize and manage text-based data in preparation for analysis and final report writing of small scale research projects. Students use their own laptop computers to access one of two free, open-source software programs available for Windows, Mac, and Linux operating systems. While students with extant interview data can use it for this course, those without existing data will be provided text to code and analyze. This course does not cover commercial CAQDAS, such as AtlasTi, NVivo, The Ethnograph or Hypertext. Instructor(s): S. Hicks-Bartlett Terms Offered: Spring Winter

Equivalent Course(s): MAPS 40177

### SOCI 40192. Seminar: The Family. 100 Units.

This seminar will focus on classic and current readings on the family, including the family as an institution, changes in family structure and function, new family forms, cohabitation, marriage, union dissolution, fertility, sexuality, working families, intergenerational relations, and family policy. We will discuss the readings for the week, with a focus on evaluating both the research and the ideas. Students will develop a research project on the family and prepare a paper outlining the project, providing a theoretical framework, background, hypotheses and approach. This might serve as the basis for a qualifying paper.

Instructor(s): L. Waite Terms Offered: Autumn Prerequisite(s): Advanced Undergrads Consent of Instructor Equivalent Course(s): CHDV 40192

### SOCI 40202. Advanced Topics in Causal Inference. 100 Units.

This course provides an in-depth discussion of selected topics in causal inference that are beyond what are covered in the introduction to causal inference course. The course is intended for graduate students and advanced undergraduate students who have taken the intro course and want to extend their knowledge in causal inference. Topics include (1) alternative matching methods, randomization inference for testing hypothesis and sensitivity analysis; (2) marginal structural models and structural nested models for time-varying treatment; (3) Rubin Causal Model (RCM) and Heckman's scientific model of causality; (4) latent class treatment variable; (5) measurement error in the covariates; (6) the M-estimation for the standard error of the treatment effect for the use of IPW; (7) the local average treatment effect (LATE) and its problems, sensitivity analysis to examine the impact of plausible departure from the IV assumptions, and identification issues of multiple/one treatments; (8) Multi-level data for treatment evaluation for multiple/one treatments; (9) Nonignorable missingness and informative censoring issues.

Instructor(s): G. Hong, K. Yamaguchi Terms Offered: Spring. Not being offered in 2020/2021

Prerequisite(s): Intermediate Statistics such as STAT 224/PBHS 324, PP 31301, BUS 41100, or SOC 30005 and Introduction to causal inference or their equivalent are prerequisites.

Note(s): CHDV Distribution: M\*

Equivalent Course(s): MACS 52000, CHDV 40102

### SOCI 40217. Spatial Regression Analysis. 100 Units.

This course covers statistical and econometric methods specifically geared to the problems of spatial dependence and spatial heterogeneity in cross-sectional data. The main objective of the course is to gain insight into the scope of spatial regression methods, to be able to apply them in an empirical setting, and to properly interpret the results of spatial regression analysis. While the focus is on spatial aspects, the types of methods covered have general validity in statistical practice. The course covers the specification of spatial regression models in order to incorporate spatial dependence and spatial heterogeneity, as well as different estimation methods and specification tests to detect the presence of spatial autocorrelation and spatial heterogeneity. Special attention is paid to the application to spatial models of generic statistical paradigms, such as Maximum Likelihood, Generalized Methods of Moments and the Bayesian perspective. An important aspect of the course is the application of open source software tools such as R, GeoDa and PySal to solve empirical problems. Instructor(s): P. Amaral Terms Offered: Spring

Equivalent Course(s): MACS 55000, GEOG 40217

### SOCI 40225. Sociology of Education. 100 Units.

Education plays a fundamental role in society, both because it determines individuals' life chances and because it has the power to reproduce or ameliorate inequality in society. In this course, we will discuss theoretical and empirical research that examines how schools both perpetuate socioeconomic inequality and provide opportunities for social mobility. We will pay particular attention to the role of schools in the intergenerational transmission of social status, especially based on race, class, gender, and immigrant status and with an emphasis on the U.S. We will also discuss the social side of schools, delving into (1) the role of adolescent culture(s) in youths' educational experiences and human development and (2) social psychological aspects of schools, schools are the primary extra-familial socializing institution that youth experience; thus, understanding how schools work is central to understanding the very structure of societies as well as the transition from childhood.

Instructor(s): A. Mueller Terms Offered: Autumn Note(s): CHDV Distribution: 2\*

Equivalent Course(s): EDSO 40128, CHDV 40128

### SOCI 40236. Panel Data Spatial Econometrics. 100 Units.

This course covers econometric methods specifically geared to deal with the presence of spatial dependence and spatial heterogeneity in panel data models, i.e., models based on data with both a cross-sectional and time series dimension. Such data are increasingly common in many areas of empirical social science research. The main objectives of the course are to gain insight into the way spatial effects can be incorporated into panel data regression model specifications, what are the proper methods to carry out specification tests and to estimate such models, and how the results should be interpreted in terms of the implied dynamics across space and over time. Special attention is paid to the application to spatial models of generic statistical paradigms, such as fixed and random effects, maximum likelihood and quasi-maximum likelihood estimation, the generalized method of moments, and semi-parametric estimation. An important aspect of the course is an emphasis on computation and leveraging open source software tools such as R and Python to carry out estimation and simulation.

Instructor(s): L. Anselin Terms Offered: Spring

Prerequisite(s): SOCI 40217, GEOG 40217, MACS 55000(Spatial Regression Analysis) strongly recommended Equivalent Course(s): MACS 40236

### SOCI 40237. Towards a Sociology of Democracy: Theories and Cases. 100 Units.

What does a sociological approach to the study of democracy look like? How is it different from the dominant approaches in political science and political theory? The course takes up this question. We will consider relevant theories and examine several cases of democracy, particularly in the Global South.

Instructor(s): M. Garrido Terms Offered: Winter

### SOCI 40238. Making a Dissertation Project. 100 Units.

This course is aimed primarily at third years in the Sociology department, although all pre-dissertation graduate students are welcome. We will intensively workshop each other's dissertation projects, and students will be expected to produce a defensible proposal by the end.

Instructor(s): M. Garrido Terms Offered: Autumn

Prerequisite(s): Restricted to Sociology third year PhD students only; all others with consent of instructor.

### SOCI 50003. Sociology of the State. 100 Units.

Through taxation, regulation, redistribution, and the provision of services, modern states profoundly shape social life and constitute a principal form of political power. This seminar will survey major theories of the state, engaging with both comparative-historical questions (pre-modern state forms, the rise of nation-states, the development of welfare states and economic policy regimes) and contemporary challenges of governance. The course provides an overview of selected current research and an opportunity for those interested in political, historical, or macro-comparative sociology to develop empirical projects with the state as an important dimension of analysis.

Instructor(s): E. Clemens Terms Offered: Winter

### SOCI 50076. Logic of Social Science Inquiry. 100 Units.

Largely drawing on the literature of social movement, revolution, and historical sociology, this seminar surveys the methodologies that social scientists use to construct stories for the cases that interest them, including deductive reasoning, simulation, correlative thinking, mechanism-based analysis, case-based comparison, historical method, dialectics, conceptualization, hermeneutics, and more. The course discusses the pros and cons of each of these methods and ways to combine these methods to achieve better strategies for telling stories about ourselves and about the past and present. Instructor(s): D. Zhao Terms Offered: Winter

### SOCI 50092. Sem: Religion and Politics. 100 Units.

In this seminar we will consider meanings of religion and politics, and examine their interactions from a comparative perspective. After digesting alternative theoretical understandings of the relationship between religion, states, and political processes, we will turn to empirical accounts that illuminate historical and local issues at points around the globe. Among other phenomena, students will explore patterns of secularization, religious nationalism, fundamentalisms, and policy-oriented religious social movements.

Instructor(s): O. McRoberts Terms Offered: Winter

### SOCI 50112. Sem: Health and Society. 100 Units.

A long and healthy life is a widely sought after human goal. But not everyone has equal chances of achieving this goal. This course focuses on the role played by society in differential access to physical, psychological, cognitive health and well-being. We will discuss the role of parental characteristics and childhood circumstances in later-life health, differences in health and well-being for men and women, for racial and ethnic groups, by characteristics of our neighborhoods and communities, and by regions or countries. Each class meeting we will read and discuss three or four journal articles or sections of a book, with class participants presenting each reading, summarizing it, and then critiquing it. The class will then discuss. We will add to and subtract from the readings to match the interests of participants on each topic; the syllabus will list readings as a starting point for this process.

Instructor(s): L. Waite Terms Offered: Autumn

Prerequisite(s): Some Social Science background

Equivalent Course(s): CHDV 40112

### SOCI 50119. Politics of Media: From the Culture Industry to Google Brain. 100 Units.

Media theory frequently focuses on issues of technology as opposed to, or at the cost of, politics and culture. This course reorients attention to the intersection of media and cultural theory. We begin by reviewing key media theories from the Frankfurt School and the Birmingham School. Following a historical introduction, we explore the contemporary field of cultural media theory as it has unfolded in both the humanities and the social sciences. Students will think through how the sites of race, class, gender, and sexuality might frame and always already influence the ways that we think of media - from the broadcast media of Adorno and Horkheimer's culture industry that included radio, film, and television to contemporary pointcasting that is made up of digital and networked technologies. Alongside readings in an expanded media theory, we will engage artistic and cultural works, including literature, films, television serials, smart phone apps, video games, social media, and algorithms. We also explore methodological differences in media studies between the humanities and the social sciences.

Instructor(s): Patrick Jagoda & Kristen Schilt Terms Offered: Winter

Prerequisite(s): Before enrolling, MA students should email Professors Jagoda or Schilt on what you bring and hope to get out of the seminar

Equivalent Course(s): GNSE 45327, CDIN 45327, ENGL 45327, CMST 67827

### SOCI 50122. Sem: Theories of Race & Racism. 100 Units.

This course is designed for to provide an overview of sociological perspectives on race and racism in the US. While we will read classic and contemporary theory and research on race in the United States, our focus will be on getting up to date on the contemporary state of the study of race and racism in sociology and closely related fields. Throughout, our goal will be to consider race both as a source of identity and social differentiation as well as a system of privilege, power and inequality affecting everyone in society, albeit in different ways. By taking up several important debates in the literature, the course will offer you a solid entry point into the study of race and racism in the US.

Instructor(s): J. Bell Terms Offered: Autumn

#### SOCI 60020. 1st-Year Proseminar Research Questions and Design. 000 Units.

A required, non-credit colloquium for first-year doctoral students in Sociology. The Colloquium addresses how to generate research questions and design projects through the current work of department faculty.

Instructor(s): J. Trinitapoli Terms Offered: Autumn

Prerequisite(s): 1st-year Sociology PhD students only

### SOCI 40239. Linear Models: From Principles To Practice. 100 Units.

This course is designed as a hands-on practicum in the nuts and bolts of handling and analyzing quantitative data. Key topics include data management, sample definition, scale construction, treatment of missing data, and effective presentation of results. This course pre-supposes students have taken the first-year stats sequence in sociology (or some equivalent) and possess basic knowledge of the principles of sampling, mathematical statistics, and linear regression models. In this class we will solidify that knowledge by 1) examining several simple extensions of the GLM framework, 2) analyzing examples of recent, published work that executes these extensions for some sociological purpose, and 3) cultivating fluency in the exploration and manipulation of a variety of quantitative data sources through replication and extension. Course examples will be done in Stata.

Instructor(s): J. Trinitapoli Terms Offered: Autumn

Prerequisite(s): Must have taken Statistical Methods of Research 1 & 2 before registering

### SOCI 40240. Citites and their Global Connections. 100 Units.

This course surveys the core traditions of critical urban social science that emerged since the 1970s and their major contributions to theory development and concrete research on contemporary urbanization. We focus in particular on approaches to urban studies that explore capitalist forms of urbanization, their expressions in historical regimes of urban development, their implications for sociospatial configurations within and beyond metropolitan regions, their mediations through state institutions and sociopolitical contestation, and their connections to the remaking of nonhuman landscapes and ecologies. The course will devote particular attention to research traditions that investigate processes of urban restructuring in relation to a range of contemporary global transformations-including geoeconomic restructuring; neoliberalization and the remaking of state power; financialization and cascading global financial crises; the consolidation of global supply chains and new patterns of industrial development in the global South; and the proliferation of planetary ecological crises under the 'Anthropocene.' This reading-intensive course is intended to introduce Ph.D. students to the foundations of critical urban studies and to provide a broad survey of major themes, methods and debates in this dynamic research field. Instructor(s): N. Brenner Terms Offered: Autumn

Prerequisite(s): Upper level Ugrads and MA students may be admitted with instructor's permission.

### SOCI 50124. Historical Sociology of Religion - After Max Weber and Emile Durkheim. 100 Units.

In the writings of the European classics of sociology the universal history of religion was absolutely crucial. Strangely, and although the reputation of Max Weber and Emile Durkheim has constantly grown over time, this area of their interests later became marginal in the discipline. After briefly suggesting a possible explanation of this phenomenon, this class will deal with the exceptions, scholars who have contributed significantly to the sociological study of the history of religion (H. Richard Niebuhr, Will Herberg, Werner Stark, David Martin Marcel Gauchet, Robert Bellah, Jose Casanova). Additional scholars and my own writings in this area can be included if there is an interest in tracing a tradition that should have received new attention after the end of the intellectual hegemony of the secularization thesis. Instructor(s): Hans Joas Terms Offered: Spring. Course will be taught autumn 2021 Equivalent Course(s): AASR 50213, SCTH 50213



# The William B. and Catherine V. Graham School of Continuing Liberal and Professional Studies

Since the University's founding in 1890, the University of Chicago Graham School of Continuing Liberal and Professional Studies has served as the center of innovative lifelong learning at the University of Chicago. Connecting people around the world to the University of Chicago's distinct educational tradition, the Graham School offers a diverse collection of courses, certificates, and degree programs primarily at the University of Chicago's Gleacher Center in downtown Chicago. The Graham School is dedicated to curating and disseminating the University's rich content for a broader set of learners in ever more innovative ways, helping the University engage civically, globally, and with the latest innovations in teaching and learning.

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The University of Chicago Graham School (Bookstore) 970 E. 58th Street Chicago, IL 60637 (773) 702-1722

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### Master of Arts in Teaching

The University of Chicago's Urban Teacher Education Program (UChicago UTEP) is a five-year experience that includes a two-year master's degree program and three years of post-graduation supports. Through UChicago UTEP, candidates receive a Master of Arts in Teaching (M.A.T.) degree and Illinois teaching certification. There are two certification pathways, Elementary (grades 1-6) and Middle Grades (5-8). The two pathways meet Illinois's new licensure structure and standards for teaching: (1) all core-subjects in self-contained elementary grades 1-6; and (2) specific core subjects in departmentalized middle grades 5-8.

- Program type: masters degree program
- Program structure, requirements, (https://utep.uchicago.edu/our-program/) and application (https://applygraham.uchicago.edu/utep/)
- Location: Hyde Park Campus and Chicago Public Schools
- Full-time during the first and second years
- Time to completion: 2 years

Admission Criteria:

- Online application (including three letters of recommendation)
- Official transcripts
- Submit a Composite ACT Plus Writing score of 22 or higher with a minimum score of 19 on the Combined English/Writing *OR* a Composite SAT score of 1030 or higher on Critical Reading plus Mathematics, with a minimum score of 450 on Writing if taken before March 5, 2016, *OR* a Composite SAT score of 1110 (Evidence-based Reading and Writing plus Mathematics) or higher, and a minimum score of 26 on the Writing and Language Test for the Redesigned SAT taken on or after March 5, 2016, in lieu of the Illinois Certification Testing System (http://www.icts.nesinc.com/) (ICTS/Illinois Licensure Testing System or ILTS) Basic Skills or Test of Academic Proficiency (TAP) exams. If the SAT score is submitted, it must include the writing subtest.
- The GRE exam is NOT required for admission.
- If the application meets the criteria, students will be invited to an in-person interview during the winter quarter of their third year in the College.

Minimum g.p.a. for satisfactory academic progress: 3.0

## Ideal candidate are those whose college transcript(s) reflects that they have met the Illinois State General Education standards with excellence. All requirements listed below must be met prior to UChicago UTEP admission:

### Elementary (Grades 1-6)

- 2 Science Courses (in any of the following areas: life, physical/chemistry, earth science, space science)
- 2 Social Science Courses (in any of the following areas: history, geography, civics, & government, economics)
- I Mathematics Course (in any of the following areas: college-level math, number sense, geometry, probability & statistics, calculus)
- 1 Fine Arts Course (in any of the following areas: music, art, dance, etc.)

### Middle Grades (Grades 5-8)

Candidates can be endorsed in any or all of the following subject areas. (Please note that some content courses taken as a UTEP student can help fulfill endorsement requirements).

- Science (4 courses in any of the following areas: life, physical/chemistry, earth science, space science)
- Social Science (5 courses in any of the following areas: history, geography, civics & government, economics)
- Mathematics (4 courses in any of the following areas: college-level math, number sense, geometry, probability & statistics, calculus)
- English/Language Arts (4 courses in any of the following areas: reading, writing, literature, communication)
- Bilingual/ESL (6 required courses and must pass the Target Language Proficiency Test)
- ESL (6 required courses and must pass the Target Language Proficiency Test)

### Foundations curriculum (Year One):

Autumn

- UTEP 35505 Foundations for Education I: The Social Aspects and History's of Chicago and Chicago Schools
- UTEP 35510 Mathematics Content for Teaching I
- UTEP 51000 Reading Content for Teaching I
- UTEP 43200 Mathematics Methods

### Winter

- UTEP 35506 Foundations of Education: Philosophy of Education
  UTEP 52000 Reading Content for Teaching II
- UTEP 35511 Mathematics Content for Teaching II (Geometry)
- UTEP 43400 Math Methods II

### Spring

- UTEP 35502 Human Development and Learning
- UTEP 55000 Reading & Writing Methods
- UTEP 35513 Science Content for Teaching I
- UTEP 35512 Mathematics Content for Teaching III
- UTEP 35522 Internship/Foundations Practicum III

Residency curriculum (Year Two):

### Summer

- UTEP 33001 Differentiation
- UTEP 35514 Science Content for Middle Grades Teaching III

### Autumn

- UTEP 47000 Practicum I: Instruction & edTPA
- UTEP 48000 Teaching & Learning I: Building & Managing a Classroom Community
- UTEP 37100 Foundations of Bilingual and ESL Education

### Winter

- UTEP 47100 Practicum II: Using Formative Data to Improve Teaching
- UTEP 48100 Teaching and Learning II: Reading and Writing across the Content Areas
- UTEP 35543 Social Studies Content for Teaching
- Spring
- UTEP 47200 Practicum 3: Unit Assessment
- UTEP 48200 Teaching and Learning 3: Integrated Classroom Management
- UTEP 37200 Methods and Materials for Teaching ESL

### Urban Teacher Education Courses

### UTEP 30000. Fund Aspects of Teaching. 100 Units.

### UTEP 30200. Intro to Mathematics Concepts and Pedagogy. 100 Units.

This course will provide residents with skills, knowledge and understanding for how to observe and understand how children approach mathematics and how to use that data to design high-leverage instructional practices using appropriate instructional tools. Particular attention will be paid to constructing a supportive mathematics classroom that fosters the Standards for Mathematical Practice, and meets the needs of diverse learners, as well as developing professional skills necessary to strengthen resident's communication and collaboration with fellow mathematics teachers, administrators, and with parents and families.

### UTEP 30500. Elements of Literacy Instruction-III. 100 Units.

This course will provide opportunities for residents to explore the impact of urban environments on the local culture, language, and the ability of students to read and write. Residents will also have opportunities to delve into research and theory related to understanding how learning environments support individual motivation to read and write particularly in content area subjects.

### UTEP 30600. Number Theory. 100 Units.

### UTEP 31000. Professional Teaching Seminar-I and Practicum. 100 Units.

The second year of the program, called Residency, is when student teaching will occur at school sites selected by the program. The residency/student teaching is comprised of a year-long experience consisting of two half-year placements (residents are in schools four days/week from September through January, and then again in a different school placement from January through June) in two urban schools-where they progressively assume all teaching responsibilities. The half day, and provides ongoing professional development in pedagogy. Candidates concentrate on four domains of professional practice: planning, preparation, and assessment; instructional delivery; classroom environment and learning community; and professional responsibilities. They reflect on their classroom practice through video analysis, review of student work, lesson study, journal sharing, and group debriefing. They also continue their work in working with second-language learners special-needs students. Finally, the residency and seminar will integrate fine arts and health related activities into work with children as well as with the cohort. Over the course of the residency, candidates and clinical instructors follow a continuum that begins with observation, and quickly moves into co-planning lessons, co-teaching, and eventually independent teaching. This increasing responsibility begins with several week and two-week long full classroom takeovers in content areas early in the year.

### UTEP 31300. Elements of Science Instr. 100 Units.

This course explores the methodologies of instructional delivery and planning for grades 5-8. There will be a focus on meeting the needs of learners in urban classrooms and focusing on methodologies that are constructed as a means to develop the capacities defined by curriculum and demonstrated through assessment. Topics will include the connection of learning theory to instructional delivery; standards-based instruction; instructional planning techniques; creating an equitable learning community in the science classroom; and methods for teaching for proficiency in scientific inquiry and scientific content.

### UTEP 31400. Elements of Social Study Instruction. 100 Units.

This course guides middle grades interns in becoming familiar with materials available for inquiry-based social science instruction. Interns also learn about promoting a classroom environment in which students' ideas about global, US, Illinois, and Chicago history are central to understanding broader social studies topics, including economics, geography, etc. Interns are required to observe and teach social science lessons throughout the course. A key emphasis in this course is highlighting opportunities for the integration of social science instruction with other content areas.

UTEP 31900. Transitions to Teaching. 100 Units.

UTEP 32011. Professional Secondary Teaching Seminar I and Practicum. 100 Units.

UTEP 32013. Professional Secondary Teaching Seminar III. 100 Units.

UTEP 32101. Biology Capstone II: Science in Context. 100 Units.

UTEP 32103. Secondary Education II: Biology Curriculum and Assessment. 100 Units.

### UTEP 32203. Secondary Education II: Math Curriculum and Assessment. 100 Units.

### UTEP 33001. Differentiation. 100 Units.

This course examines the current best practices with students facing learning obstacles because of cognitive and emotional handicaps, as well as those with exceptionalities (i.e. gifted and talented). Interns explore ways of modifying their instruction to meet these children's needs and are introduced to the legislation that governs the education of children in these groups so that they can serve as effective advocate.

### UTEP 34403. Critical Analysis of Teaching in Urban Schools I. 100 Units.

This course sequence enables residents to explore issues of teacher identity and educational equity as well as the ways in which race, class, and culture affect both teachers and students, Students consider the instructional implications of identity and equity related issues on lesson design, curriculum, assessment, classroom management, and working with children and their families.

### UTEP 35501-35502-35503. Schools and Communities; Human Development and Learning; Teaching and Learning in Urban Schools.

This is a yearlong sequence on the foundations of education in urban contexts.

### UTEP 35501. Foundations for Education: Schools and Communities. 100 Units.

This course focuses on communities, families, and the organization of schools. It emphasizes historical, anthropological, and sociological perspectives as students explore questions about why we have public schools, why they are organized as they are (especially in urban contexts), and how these institutions might be reformed. The topics covered represent essential intellectual perspectives for any professional who seeks to work in an urban school context. This course has been designed to afford students with multiple analytic lenses to complement and integrate students' academic, field experiences, tutoring work, and "soul strand" reflections across the year. The course project requires students to use what they have learned to conduct an in-depth school study.

Terms Offered: Autumn

Equivalent Course(s): SOSC 25501

### UTEP 35502. Human Development and Learning. 100 Units.

The focus of this course is the child, and the course provides a variety of lenses through which to look at children. Using the rich professional resources of the Center for Urban School Improvement and the University of Chicago Charter School, students are introduced to approaches to observing children for different purposes; the prominent, and sometimes contradictory, theories of learning and child development; what we know about motivation and engagement and implication for the classroom; and the sociocultural contexts that influence both student performance and the way we look at children. Each section of the course includes an observation assignment that builds towards the final assignment of producing a study of a schoolchild that the student has tutored. Terms Offered: Winter,Spring

### UTEP 35503. Foundations of Education: Teaching and Learning in Urban Schools. 100 Units. Equivalent Course(s): SOSC 25503

### UTEP 35505. Foundations for Education I: The Social Aspects and History's of Chicago and Chicago Schools. 100 Units.

The first year of UTEP is called the Foundations Year. In each Quarter of Foundations Year, Elementary interns work 20 hours at a University of Chicago Charter School, developing their initial skills in literacy and mathematics instruction through tutoring individual students. Interns are required to tutor 2-3 (assigned) children at the University of Chicago Charter Schools to help them begin to see firsthand how children approach literacy and mathematics learning, develop academic instructional vocabulary, engage in observation and reflection of lessons, and design learning activities. These tutoring experiences are designed by UTEP staff to be both supportive learning environments for children and interns and are carefully monitored by UTEP's literacy and math instructors. As part of this practicum, UTEP interns must complete quarterly observation hours in the classrooms of the students they observe, with particular attention to literacy instruction (guided reading and interactive read aloud practices). They will also be engaged in required various (whole group/cohort) field experiences. Each quarter has a series of different learning foci, drawing from the concurrent courses in which they are enrolled. The practicum is intentionally designed to align with the additional courses interns are required to take in each quarter of Foundations Year.

### UTEP 35506. Foundations of Education: Philosophy of Education. 100 Units.

In this course, interns survey philosophies of education, including John Dewey, Paulo Friere, and others who have arguably left the deepest mark on the field of education studies. This course also includes a look at Dewey's contemporary counterparts and critics. Interns also engage in an in depth study of contemporary philosophies around culturally relevant pedagogy and multicultural education, especially as it pertains to the context of Chicago Public Schools. Interns explore the influence of philosophy on teaching and learning, especially as it pertains to curriculum. For the final assignment, candidates conduct a case study of a teaching pedagogy and revise their own education philosophy in light of course readings and discussions.

### UTEP 35507. Foundation of Education II: Philosophy of Education. 100 Units.

In this course, interns survey philosophies of education, including John Dewey, Paulo Friere, and others who have arguably left the deepest mark on the field of education studies. This course also includes a look at Dewey's contemporary counterparts and critics. Interns also engage in an in depth study of contemporary philosophies around culturally relevant pedagogy and multicultural education, especially as it pertains to the context of Chicago Public Schools. Interns explore the influence of philosophy on teaching and learning, especially as it pertains to curriculum. For the final assignment, candidates conduct a case study of a teaching pedagogy and revise their own education philosophy in light of course readings and discussions.

### UTEP 35510. Mathematics Content for Teaching I. 100 Units.

This course gives interns a deeper understanding of the foundations of elementary mathematics. Topics include problem solving, fractions, percentages, addition, subtraction, multiplication, and division, algebra, and foundational geometry Interns are introduced to the aforementioned topics through a problem-based approach to mathematics instruction, as endorsed by the National Council of Teachers of Mathematics.

### UTEP 35511. Mathematics Content for Teaching II (Geometry) 100 Units.

This course is designed to support the teaching of probability and statistics in elementary and middle schools. Several popular games (such as lotteries, roulette, craps, and poker) will be considered both from a theoretical point of view and by means of very simple computer simulation. We will also use foundational statistical concepts to begin to understand and analyze various student learning data that teachers are responsible for.

### UTEP 35512. Mathematics Content for Teaching III. 100 Units.

The final content course in this Foundations sequence, this course will build on the work in the previous two content courses, and provide middle grades interns with a deeper understanding of the content and pedagogical content of calculus, including, but not limited to, exponential and logarithmic functions, defining and evaluating derivatives.

### UTEP 35513. Science Content for Teaching I. 100 Units.

Interns will familiarize themselves with key topics in science instruction in Life science from the lenses of school teaching and learning. Topics to be addressed include genetics, reproduction, molecular and cellular biology, ecology and ecosystems. In addition to delving into key topics, the course will emphasize contributions of diverse scientists.

### UTEP 35514. Science Content for Middle Grades Teaching III. 100 Units.

Interns will familiarize themselves with key topics in science instruction in Earth and Space Science from the lenses of school teaching and learning. Topics to be addressed include the earth and the universe. In addition to delving into key topics, the course will emphasize contributions of diverse scientists.

### UTEP 35516. Science Content for Teaching III. 100 Units.

Interns will familiarize themselves with key topics in science instruction such as Life science, earth and space science, physical science from the lenses of school teaching and learning. In addition to delving into key topics, the course will emphasize contributions of diverse scientists.

### UTEP 35518. Middle Grades Reading Content. 100 Units.

In this foundational content course, interns will explore current theories of literacy/reading and their current practices, as well as their historical roots. Interns will analyze the strengths and weaknesses of the frameworks for literacy acquisition, with particular attention paid to those frameworks used in the local context and those approaches to literacy typically used with student populations in schools in Chicago. Particular focus is paid to adolescent literacy development and research-based, successful literacy practices with adolescents.

### UTEP 35520. Internship/Foundations Practicum I. 100 Units.

### UTEP 35521. Internship Foundations Practicum II. 100 Units.

The first year of UTEP is called the Foundations Year. In each Quarter of Foundations Year, Elementary interns work 20 hours at a University of Chicago Charter School, developing their initial skills in literacy and mathematics instruction through tutoring individual students. Interns are required to tutor 2-3 (assigned) children at the University of Chicago Charter Schools to help them begin to see firsthand how children approach literacy and mathematics learning, develop academic instructional vocabulary, engage in observation and reflection of lessons, and design learning activities. These tutoring experiences are designed by UTEP staff to be both supportive learning environments for children and interns and are carefully monitored by UTEP's literacy and math instructors. As part of this particular attention to literacy instruction (guided reading and interactive read aloud practices). They will also be engaged in required various (whole group/cohort) field experiences. Each quarter has a series of different learning foci, drawing from the concurrent courses in which they are enrolled. The practicum is intentionally designed to align with the additional courses interns are required to take in each quarter of Foundations Year.

### UTEP 35522. Internship/Foundations Practicum III. 100 Units.

As part of this practicum, UTEP interns must complete quarterly observation hours in the classrooms of the students they observe, with particular attention to literacy instruction (guided reading and interactive read aloud practices). They will also be engaged in required various (whole group/cohort) field experiences that take them within and outside of Chicago and into affluent public and private settings to enhance their educational experiences. Each quarter has a series of different learning foci, drawing from the concurrent courses in which they are enrolled. The practicum is intentionally designed to align with the additional courses interns are required to take in each quarter of Foundations Year.

### UTEP 35531. Residency and Seminar II. 100 Units.

The second year of the program, called Residency, is when student teaching will occur at school sites selected by the program. The residency/student teaching is comprised of a year-long experience consisting of two half-year placements (residents are in schools four days/week from September through January, and then again in a different school placement from January through June) in two urban schools-where they progressively assume all teaching responsibilities. The half day Residency Seminar that accompanies student teaching ensures integration between academic coursework and the residency, and provides ongoing professional development in pedagogy. Candidates concentrate on four domains of professional practice: planning, preparation, and assessment; instructional delivery; classroom environment and learning community; and professional responsibilities. They reflect on their classroom practice through video analysis, review of student work, lesson study, journal sharing, and group debriefing. They also continue their work in working with second-language learners special-needs students. Finally, the residency and seminar will integrate fine arts and health related activities into work with children as well as with the cohort. Over the course of the residency, candidates and clinical instructors follow a continuum that begins with observation, and quickly moves into co-planning lessons, co-teaching, and eventually independent teaching. This increasing responsibility begins with several week and two-week long full classroom takeovers in content areas early in the year, and culminates with a full classroom takeover of all content areas toward the end of the residency year.

### UTEP 35532. Residency and Seminary III. 100 Units.

The second year of the program, called Residency, is when student teaching will occur at school sites selected by the program. The residency/student teaching is comprised of a year-long experience consisting of two half-year placements (residents are in schools four days/week from September through January, and then again in a different school placement from January through June) in two urban schools-where they progressively assume all teaching responsibilities. The half day Residency Seminar that accompanies student teaching ensures integration between academic coursework and the residency, and provides ongoing professional development in pedagogy. Candidates concentrate on four domains of professional practice: planning, preparation, and assessment; instructional delivery; classroom environment and learning community; and professional responsibilities. They reflect on their classroom practice through video analysis, review of student work, lesson study, journal sharing, and group debriefing. They also continue their work in working with second-language learners special-needs students. Finally, the residency and seminar will integrate fine arts and health related activities into work with children as well as with the cohort.

### UTEP 35540. Elementary Reading Methods I. 100 Units.

In this sequence, candidates explore ways in which children engage literacy-related tasks and work with elements in a balanced literacy approach to instruction. Candidates are introduced to a variety of instructional and assessment strategies related to literacy, and the Urban Education Institute's STEP Literacy Assessment.@. A major emphasis of this course is helping candidates use classroom data to support instructional decisions. This course supports the "tutoring strand" of the Foundations Year Internship Practicum (course 35520).

### UTEP 35541. Elementary Reading Methods II. 100 Units.

In this sequence, interns continue to explore ways in which children engage literacy-related tasks and work with elements in a balanced literacy approach to instruction. Sessions include an experiential activity for modeling purposes and videos of practice, which are shared and analyzed. Other emphases include children's literature and current best practice in adapting a balanced literacy approach to meet the needs of special-education students. This course supports the "tutoring strand" of the Foundations Year Internship Practicum (course 35521)

### UTEP 35542. Elementary Writing Methods. 100 Units.

In this course, interns explore ways in which writing instruction fit into a balanced literacy approach to instruction. Candidates are introduced to a variety of instructional and assessment strategies related to literacy, specifically the Lucy Calkins writers workshop approach that is foundational in Chicago Public Schools K-8 classrooms. Sessions include an experiential activity for modeling purposes and videos of practice, which are shared and analyzed. This course supports the "tutoring strand" of the Foundations Year Internship Practicum (course 35522).

### UTEP 35543. Social Studies Content for Teaching. 100 Units.

Interns will familiarize themselves with key topics in social studies instruction including local and US history, geography, civics and government, local and national, and international economics from the lenses of school teaching and learning. In addition to delving into key topics, students will analyze topics from a critical lens using the works of individuals such as Howard Zinn and Joel Spring

### UTEP 35590. Science Content for Teaching II. 100 Units.

Interns will familiarize themselves with key topics in science instruction in Earth and Space Science from the lenses of school teaching and learning. Topics to be addressed include the earth and the universe. In addition to delving into key topics, the course will emphasize contributions of diverse scientists.

### UTEP 35615. Teaching and Learning 2: Unit Design and Assessment. 100 Units.

Candidates explore the development of curriculum from the perspectives of the advancement of knowledge in the discipline itself; educational reform measures; local, state, and national standards; equity of social and economic opportunity; instructional materials development; and classroom instruction. The course also addresses the theory and practice of assessment ab a tool to evaluate student learning and an instrument for teaching, standards-based grading; summative assessment and accountability measures; equity and bias issues in assessment and problem-posing; development of quality classroom assessment tasks; formative assessment methods, such as problem-posing, questioning, analysis of student work, identifying and addressing misconceptions, and self-assessment strategies; and reporting progress to students, parents, and leadership. The course includes a curriculum-evaluation conversation, which provides the opportunity to study and evaluate current instructional materials.

### UTEP 35715. Teaching and Learning 3: Language and Linguistic Diversity. 100 Units.

This course will provide opportunities for residents to explore ways in which diversity influences adolescent literacy development as well as the relationship between first-and second-language acquisition and literacy development.

### UTEP 36623. Social Studies Methods. 100 Units.

This course guides elementary school (grades 1-6) interns in becoming familiar with materials available for inquiry-based social studies instruction. Interns also learn about promoting a classroom environment in which students' ideas about global, US, Illinois, and Chicago history are central to understanding broader social studies topics, including economics, geography, etc. Interns are required to observe and teach social studies lessons throughout the course. A key emphasis in this course is highlighting opportunities for the integration of social studies instruction with other content areas.

### UTEP 36625. Science Methods. 100 Units.

This course guides elementary grades (1-6) interns in interpreting relevant key scientific research findings, adapting them for instruction, and becoming familiar with materials available for inquiry-based science instruction. Candidates also learn about promoting a classroom environment in which students' ideas about the natural and physical world are central, and how to make inquiry and discussion key vehicles for science learning. Students are required to observe and teach science lessons throughout the course.

### UTEP 37100. Foundations of Bilingual and ESL Education. 100 Units.

This course studies the historical and legislative foundations of bilingual and ESL education, the types of bilingual programs, their advantages and the principles of bilingual education. Additionally, this course will also study the conceptual, linguistic, sociological, and political foundations of bilingual and ESL education.

### UTEP 37200. Methods and Materials for Teaching ESL. 100 Units.

This course will give an overview of the underlying principles, characteristics, and applicability of various methods for teaching English as a second language (ESL). It will explore the historical and current trend of instructional approaches, methods, and techniques. This course will also explore methods and techniques for teaching specific language skill areas, and look at current issues in language teaching, including language assessment, standards.

### UTEP 37300. Cross Cultural Studies for Teaching Linguistically and Culturally Diverse Students. 100 Units.

This course studies cultural diversity in classrooms in the United States and how theories of ethnicity, acculturation and intercultural communication impact the classroom. Students will explore their own background and ethnicity to gain the knowledge and dispositions to address the instructional needs of ELLs. This course will help teachers create classrooms that promote equity and an appreciation for diversity.

### UTEP 37400. Assessment of Bilingual Students. 100 Units.

This course studies the different ways to accurately assess students in Bilingual and ESL programs in academic content and English Language proficiency. This course will also critically review the different modifications and accommodations given to language minority students when given standardized tests, identify different assessment techniques, and consider the relationships between English Language proficiency, academic achievement, and the socio-cultural dimensions of testing and assessment.

### UTEP 37500. Teaching Literacy to Linguistically and Culturally Diverse Students. 100 Units.

This course will explore issues related to language acquisition and its relationship to literacy development. Students will explore the first and second language development, cultural diversity, second language instruction, English as a Second Language and bilingual education, and how these different issues impact the teaching of reading and writing of English Language Learners. Students will also learn strategies that help English Language Learners use their home language to maximize their learning.

### UTEP 37501. Methods and Materials for Teaching in Bilingual Classrooms. 100 Units.

This course focuses on the methods of teaching bilingual education, bilingualism and bi-literacy. Different bilingual programs, and dual language programs, their characteristics are explored as are their implications for the school, home and community. Language and literacy instruction and assessment in bilingual and dual language programs are also explored. In this course the applications of language teaching styles, materials, assessment and the use of technology in bilingual education settings are studied and analyzed.

### UTEP 37600. Linguistics. 100 Units.

This course provides an introduction to language as a system, first and second language acquisition processes, implications for teaching English language learners taking into account the four language domains - listening, speaking, reading, and writing, and implications for teaching content-specific language (math, science, social studies).

### UTEP 39902. Middle Grades ELA Methods. 100 Units.

This course will provide residents with skills, knowledge and understanding related to ways in which middle school students engage in literacy-related tasks and work with elements in a balanced literacy approach to instruction. Residents will also explore a variety of research-based reading and writing strategies to assist middle school students with comprehension, decoding, fluency, and vocabulary. The course will also focus on meeting the literacy needs of a diverse student population.

### UTEP 42000. Reading Practicum I. 100 Units.

In this sequence, candidates explore ways in which children engage literacy-related tasks and work with elements in a balanced literacy approach to instruction. Candidates are introduced to a variety of instructional and assessment strategies related to literacy, and the Urban Education Institute's STEP Literacy Assessment.@. A major emphasis of this course is helping candidates use classroom data to support instructional decisions. This course supports the "tutoring strand" of the Foundations Year Internship Practicum.

### UTEP 42100. Reading Practicum II. 100 Units.

In this sequence, interns continue to explore ways in which children engage literacy-related tasks and work with elements in a balanced literacy approach to instruction. Sessions include an experiential activity for modeling purposes and videos of practice, which are shared and analyzed. Other emphases include children's literature and current best practice in adapting a balanced literacy approach to meet the needs of special-education students.

### UTEP 43000. Math Practicum I. 100 Units.

The work of this course has two purposes. It allows UChicago UTEP interns to engage one-on-one with elementary and middle grade students who may be struggling in math and provides the students the support they need to continue making progress in their classrooms. The topics and readings in this course will also provide UChicago UTEP interns with a foundation in math content knowledge and exposure to assessments which will be built upon in Math Methods during Residency Year.

### UTEP 43100. Mathematics Practicum II. 100 Units.

The work in this course shifts to support interns as they complete work tutoring students one-on-one and in small groups, and begin their immersion in their homebase classrooms, where they will observe mathematics instruction in small groups and whole class contexts.

### UTEP 43200. Mathematics Methods. 100 Units.

This course will provide residents with skills, knowledge and understanding for how to observe and understand how children in grades K-8 approach mathematics and how to use that data to design high-leverage instructional practices using appropriate instructional tools. Particular attention will be paid to constructing a supportive mathematics classroom that fosters the Standards for Mathematical Practice, and meets the needs of diverse learners, as well as developing professional skills necessary to strengthen resident's communication and collaboration with fellow mathematics teachers, administrators, and with parents and families.

### UTEP 43400. Math Methods II. 100 Units.

This course explores mathematics instruction in elementary and middle school. Class sessions include the examination of the intern's own school mathematics experiences, engagement in and analysis of mathematical problem solving, demonstrations of instructions practices, discussions of readings, and other mathematical activities. Interns will have opportunities to apply what they learn in the course to their practical experiences in schools through tutoring and homebase.

### UTEP 47000. Practicum I: Instruction & edTPA. 100 Units.

Candidates concentrate on four domains of professional practice: planning, preparation, and assessment; instructional delivery; classroom environment and learning community; and professional responsibilities. They reflect on their classroom practice through video analysis, review of student work, lesson study, journal sharing, and group debriefing.

### UTEP 47100. Practicum II: Using Formative Data to Improve Teaching. 100 Units.

This course provides an introduction to theoretical and practical applications of data-driven decision making to improve classroom instruction and learning. Students will apply the components and organization of an effective curriculum utilizing the backward design process. Students will apply generally accepted data-based decision procedures for generating, analyzing, and interpreting educational data. The course will outline procedures for designing or selecting, administering, scoring, and interpreting a variety of formal and informal assessment measures for use in schools.

### UTEP 47200. Practicum 3: Unit Assessment. 100 Units.

Candidates explore the development of curriculum from the perspectives of the advancement of knowledge in the discipline itself; educational reform measures; local, state, and national standards; equity of social and economic opportunity; instructional materials development; and classroom instruction. The course also addresses the theory and practice of assessment, both as a tool to evaluate student learning and an instrument for teaching, standards-based grading; summative assessment and accountability measures; equity and bias issues in assessment and problem-posing; development of quality classroom assessment tasks; formative assessment methods, such as problem-posing, questioning, analysis of student work, identifying and addressing misconceptions, and self-assessment strategies; and reporting progress to students, parents, and leadership. The course includes a curriculum-evaluation conversation, which provides the opportunity to study and evaluate current instructional materials.

### UTEP 48000. Teaching & Learning I: Building & Managing a Classroom Community. 100 Units.

This course presents best practices in classroom and behavior management for the general education classroom. Practices include organizing time, materials, and classroom space, managing individual and large group student behaviors, transitions, lab activities, and other arrangements for classrooms. Basic federal and state laws as they pertain to the legal procedures for all teachers, including teachers of students with disabilities and ESL students, will be presented.

### UTEP 48100. Teaching and Learning II: Reading and Writing across the Content Areas. 100 Units.

This course will provide opportunities for residents to explore the impact of urban environments on the local culture, language, and the ability of students to read and write. Residents will also have opportunities to delve into research and theory related to understanding how learning environments support individual motivation to read and write particularly in content area subjects.

### UTEP 48200. Teaching and Learning 3: Integrated Classroom Management. 100 Units.

The half day Residency Seminar that accompanies student teaching ensures integration between academic coursework and the residency, and provides ongoing professional development in pedagogy.

### UTEP 50000. Independent Study I. 100 Units.

The selection, investigation and writing of a research topic under the personal supervision of a member of the UTEP staff, in one of the following areas: social justice and education or urban education.

### UTEP 50100. Independent Study II. 100 Units.

The selection, investigation and writing of a research topic under the personal supervision of a member of the UTEP staff, in one of the following areas: elementary education or middle school education.

### UTEP 50200. Independent Study III. 100 Units.

The selection, investigation and writing of a research topic under the personal supervision of a member of the UTEP staff, in one of the following areas: curriculum, assessment, or classroom management in elementary and middle schools.

### UTEP 50300. Independent Study 4. 100 Units.

The selection, investigation and writing of a research topic under the personal supervision of a member of the UTEP staff, in one of the following areas: educational technology or children's literature.

### UTEP 51000. Reading Content for Teaching I. 100 Units.

Candidates explore ways in which children acquire and develop literacy, including the linguistic and reading theory that supports the teaching of elementary-aged students. Candidates are introduced to a variety of instructional strategies and literacy assessments, including the Urban Education Institute's STEP Literacy Assessment.®.

### UTEP 52000. Reading Content for Teaching II. 100 Units.

Building on the work of Reading Content I, interns continue to explore ways in which children engage literacy-related tasks and work with elements in a balanced literacy approach to instruction. Sessions include an experiential activity for modeling purposes and videos of practice, which are shared and analyzed. Other emphases include children's literature and current best practice in adapting a balanced literacy approach to meet the needs of special-education.

### UTEP 55000. Reading & Writing Methods. 100 Units.

In this course, interns explore ways in which integrated reading and writing instruction fit into a balanced literacy approach to instruction. Candidates are introduced to a variety of instructional and assessment strategies related to literacy, specifically the Lucy Calkins writing workshop approach that is foundational in Chicago Public Schools K-8 classrooms, as well as a continuum of reading practices (interactive read-aloud, shared reading, guided reading, and literature circles) to support readers across their development. Sessions include experiential activities for modeling purposes and videos of practice, which are shared and analyzed.

### UTEP 60000. Integrated Practicum I. 100 Units.

Interns are required to tutor small groups of students at the UCCS schools and neighborhood schools throughout the quarter. Instructor(s): Tinishia Legaux-Washington, Janet Granados Terms Offered: Autumn Prerequisite(s): UTEP Students Only

### UTEP 60100. Integrated Practicum II. 100 Units.

Interns are required to tutor small groups of students at the UCCS schools and neighborhood schools throughout the quarter. Instructor(s): Tinishia Legaux-Washington, Janet Granados, Dr. Kay Fujiyoshi Terms Offered: Winter Prerequisite(s): UTEP Students Only

### UTEP 60200. Integrated Practicum III. 100 Units.

As part of this practicum, UTEP interns must complete quarterly observation hours in the classrooms of the students they observe, with attention to literacy (guided reading and interactive read aloud practices) and math instruction. Each quarter has a series of different learning foci, drawing from the concurrent courses in which they are enrolled. Instructor(s): Tinishia Legaux-Washington, Janet Granados Terms Offered: Spring Prerequisite(s): UTEP Students Only

### UTEP 60300. Residency Practicum I. 100 Units.

Resident are placed in a semester-log student teaching placement. Residents are required to meet the requirements and expectations set by UTEP and ISBE during the placement. Instructor(s): Sheri Roedel, Julie Furigay Terms Offered: Autumn Prerequisite(s): UTEP Students Only

### UTEP 60400. Residency Practicum II. 100 Units.

Residents are placed in a semester-long student teaching placement. Residents are required to meet the requirements and expectations set by UTEP and ISBE during the placement. Instructor(s): Sheri Roedel, Julie Furigay Terms Offered: Winter Prerequisite(s): UTEP

### UTEP 60500. Residency Practicum III. 100 Units.

Residents are placed in a semester-long student teaching placement. Residents are required to meet the requirements and expectations set by UTEP and ISBE during the placement. Instructor(s): Sheri Roedel, Julie Furigay Terms Offered: Spring

Prerequisite(s): UTEP Students Only

### UTEP 60600. Teaching and Learning IV: Instruction & edTPA. 100 Units.

Candidates concentrate on four domains of professional practice: planning, preparation, and assessment; instructional delivery; classroom environment and learning community; and professional responsibilities. They reflect on their classroom practice through video analysis, review of student work, lesson study, journal sharing, and group debriefing. Instructor(s): Sheri Roedel, Julie Furigay Terms Offered: Autumn Prerequisite(s): UTEP Students Only

### UTEP 60700. Teaching and Learning V: Using Formative Data to Improve Teaching. 100 Units.

This course is an introduction to theoretical and practical applications of data-driven decision making to improve classroom instruction and learning. Students will apply the components and organization of an effective curriculum utilizing the backward design process. Students will apply generally accepted data-based decision procedures for generating, analyzing, and interpreting educational data. The course will outline procedures for designing or selecting administering, scoring, and interpreting a variety of formal and informal assessment measures for use in schools. Instructor(s): Sheri Roedel, Julie Furigay Terms Offered: Winter

Prerequisite(s): UTEP Students Only

### UTEP 60800. Teaching and Learning VI: Unit Assessment. 100 Units.

Candidates explore the development of curriculum from the perspectives of the advancement of knowledge in the discipline itself; educational reform measures; local, state, and national standards; equity of social and economic opportunity; instructional materials development; and classroom instruction. The course also addresses the theory and practice of assessment and accountability measures; equity and bias issues in assessment and problem-posing, development of quality classroom assessment tasks, formative assessment methods, such as problem-posing questioning, analysis of student work, identifying and addressing misconceptions, and self-assessment strategies; and reporting progress to students, parents, and leadership. The course includes a curriculum-evaluation conversation, which provides the opportunity to study and evaluate current instructional materials.

Instructor(s): Sheri Roedel, Julie Furigay Terms Offered: Spring Prerequisite(s): UTEP Students Only

### UTEP 60900. Foundations of Education I: The Social Aspects and History of Chicago and Chicago Schools. 100 Units.

In this introductory/Foundational Social Science course students study the history, political economy, and public policy that influence the sociology of urban space in which they will ultimately teach. Using historical, economic, political science, and social science lenses, this course focuses on developing a deeper understanding of the forces that shape communities and schools that impact learning. This course will help candidates better understand their work in Chicago schools and simultaneously illuminate issues that still dominate the national education landscape. The culminating project for this course is a systemic analysis of a Chicago neighborhood that summarizes the impact of historical, geographical and political influences over time. This course also includes a weekly practicum that involves interns working with pre-selected community-based organizations.

Instructor(s): Dr. Kay Fujiyoshi Terms Offered: Autumn

Prerequisite(s): UTEP Student Only

### UTEP 60910. Foundations of Educations II: Human Development & Learning. 100 Units.

This course explores the prominent theories of child development and learning. This course engages students to consider how growing up in an urban community impacts children's cognitive and psychosocial development and the role that schools and teachers can play in expanding students' opportunities and wellbeing. Simultaneously, this class includes focuses on the impact of trauma on child development as well as identity formation, and the multiple systems that impact human development. The culminating project of the course is to develop a community responsive, trauma sensitive school model and to present a self-study that pushes candidates to explore their identity formation based on markers such as race, class, gender, sexual orientation, religion, and ability. This course also includes a weekly practicum that involves interns working with pre-selected community-based organization.

Instructor(s): Dr. Kay Fujiyoshi Terms Offered: Winter Prerequisite(s): UTEP Student Only

### UTEP 60920. Foundations of Education III: Philosophy of Education. 100 Units.

In this course, interns survey philosophies of education, including John Dewey, Paulo Friere, and others who have arguably left the deepest mark on the field of education studies. This course also includes a look at Dewey's contemporary counterparts and critics. Interns also engage in an in-depth study of contemporary philosophies around culturally relevant pedagogy and multicultural education, especially as it pertains to the context of Chicago Public Schools. Interns explore the influence of philosophy on teaching and learning, especially as it pertains to curriculum. Interns will also be engaged in various (whole group/cohort) field experiences that take them within and outside of Chicago and into affluent public and private settings to enhance their educational experiences. Instructor(s): Dr. Kay Fujiyoshi Terms Offered: Spring

Prerequisite(s): UTEP Students Only

### UTEP 60930. Foundation Seminary Practicum I. 100 Units.

Interns will work with community-based organizations (CBO) throughout the quarter to apply concepts learned during the Foundations of Seminar course.

Terms Offered: Autumn

### UTEP 60940. Foundations Seminar Practicum II. 100 Units.

Interns will work with community-based organizations (CBO) throughout the quarter to apply concepts learned during the Foundations of Seminar course.

Instructor(s): Kay Fujiyoshi Terms Offered: Winter Prerequisite(s): UTEP Students Only

### UTEP 60950. Foundations Seminar Practicum III. 100 Units.

As part of our fieldwork strand this quarter, we will be visiting various neighborhood, charter, and private schools as a cohort. We will practice being careful observers of schools and classrooms, school culture, administration and leadership styles, teachers and teaching styles, students and learning styles, and curriculum in practice. Simultaneously, we will also practice building dialogic relationships with school community members and continue to engage in a process of self-reflection and awareness

Instructor(s): Kay Fujiyoshi Terms Offered: Spring Prerequisite(s): UTEP Students Only



### Master of Liberal Arts

Taking seriously UChicago's commitment to University Extension, the Master of Liberal Arts (MLA) program is a part-time degree program making available the university's world-renowned resources to intellectually curious adults who otherwise cannot commit to full-time study. The MLA's flexible course schedule and downtown Chicago campus make it ideal for adults with busy professional lives. Through reading, writing, and lively classroom discussions, MLA students study the works of great thinkers—in the Humanities, Social Sciences, Biological Sciences, and Physical Sciences— and begin the process of becoming thought leaders in their own spheres. In small seminars, all led by award-winning tenured UChicago faculty, students wrestle with great ideas and sharpen their critical and synthetic thinking skills.

- Program type: masters degree program
- Courses (https://grahamschool.uchicago.edu/credit/master-liberal-arts/current-courses/)
- Program structure, requirements, and application (https://grahamschool.uchicago.edu/academic-programs/mastersdegrees/master-liberal-arts/curriculum/)
- Location: Gleacher Center (https://grahamschool.uchicago.edu/maps/)
- Structure: part-time, full-time / weekday evenings and Saturday mornings
- Time to completion: 1-5 years
- Minimum g.p.a. for satisfactory academic progress: 3.0

### Admission criteria:

- One transcript from each prior academic institution
- Writing sample
- Candidate statement
- Resume
- Two letters of recommendation

Course requirements:

- 1 course in Humanities
- 1 course in the Social Sciences
- 1 course in the Biological Sciences
- 1 course in the Physical Sciences
- 1 non-Western elective
- 3 free electives
- · Completion of the MLA thesis/special project

### Master of Liberal Arts Courses

### MLAP 30600. Socsci-1: Meaning And Motive. 100 Units.

This course fulfills the Social Science requirement. The "social sciences" encompass a broad array of academic fields, from econometrics and political economy on one end, to personality psychology and behavioral science on the other. This course emphasizes detailed study of some formative works dealing with the organization of human societies, both simple (with respect to scale and technology) and complex; the patterning of cultures and culture as an instrument of continuous human creativity; and the adaptation of persons and personalities to life in ordered communities. The function of religion as a means of social integration and as an organizing principle for disparate cultural meanings and values forms one focus of work in the course. A second deals both with "materialist" and "idealist" approaches to the study of culture and society and with the issues of consciousness in human mental life and the motivation for action. Reading includes works by Emile Durkheim, Karl Marx, Max Weber, Sigmund Freud, and Claude Lévi-Strauss. In addition, there will be readings that represent the perspectives of women and of authors whose cultural traditions lie outside Western civilization. The aim of the course is to provide an integrated conception of the relationships between culture, society, and the person. In disciplinary terms, these concepts correspond to the academic fields of anthropology, sociology, and personality psychology; this course seeks a broadly integrative view of the human sciences. Instructor(s): A. Stanley Terms Offered: Winter

MLAP 31200. Darwinian Medicine. 100 Units.

Human beings, like other living organisms, are products of evolution and natural selection. Disease is a major factor in evolution; individuals who are relatively resistant to disease are the ones who survive and reproduce, and who transmit their genes to the next generation. Throughout most of human history, nutritional deficiencies and infectious diseases were probably the major cause of infant and childhood mortality and thus were important factors in natural selection in humans. Culture has greatly altered the human environment, providing us with new but sometimes toxic foods, exposing us to new infectious diseases, and creating other conditions for which our evolutionary heritage has poorly prepared us. We will examine the evolutionary principles and genetic mechanisms that inform our understanding of disease and will discuss the interplay between biological and cultural factors in the etiology of disease.

### MLAP 31205. Resolving the Environmental Crisis. 100 Units.

Humans have evolved unique capabilities for transforming their environment rather than adapting to it; in doing so we pass along the costs of improving their circumstances to the environment and future generations. This pattern has accelerated enormously during the past 200 years. It is now profoundly important to come to terms with our species' impact on all aspects of our environment, and the implications for our own health, welfare, security, and pleasure in life. How can we improve our social and civil institutions so as to resolve our environmental crisis? How should societies now attempting to join the industrial world proceed with their development? This course will consider these and related issues, and examine approaches to address them. This course fulfills the Biological Sciences Requirement. Instructor(s): T.Steck Terms Offered: Spring

### MLAP 31210. Human Origins: From Early Primate Beginnings to Evolutionary Medicine. 100 Units.

Human beings are members of the order Primates, a distinctive group of mammals that originated around 80 million years ago. Within the primate evolutionary tree, the branch leading to the human species split from the sister lineage leading to our closest biological relatives, the chimpanzees, approximately 8 million years ago. Even under modern living conditions in industrialized societies, this extensive evolutionary brocesses among as primates in general, to the evolution of our own species in particular, and to the special features that emerged during emergence of the human lineage. Both living primates and their fossil relatives will be considered within an overall framework that allows confident interpretation of human evolution. Evidence from anatomy, physiology, behavior, chromosomes and molecular biology will be reviewed in an accessible manner, with appropriate attention to key theoretical issues. A key aim of the course, particularly through individual presentations by class participants, is to provide training in reading, interpreting and synthesizing scientific literature on selected themes. This course fulfills the Biological Sciences Requirement.

### MLAP 31400. The Renaissance as an Age of Discovery. 100 Units.

The idea of the course is explore a group of texts dealing with discovery, magic, scientific investigation, overseas exploration, the New World on the Western shore of the Atlantic -all of this focused on the excitement of newness in the age of the Renaissance. The texts are from tragedy, comedy, non-fictional prose, philosophical prose, and lyric poetry, enabling us to study ways in which we can talk and write creatively and analytically about different kinds of literary genres. Instructor(s): D. Bevington Terms Offered: Autumn

### MLAP 31700. The New Cosmology. 100 Units.

Discoveries made and ideas put forth over the past 25 years have profoundly changed our view of the universe and our place within it. More discoveries and ideas are likely to come over the next 15 years. After thoroughly developing the Big Bang framework, this course will turn to the ideas that are central to the New Cosmology, the successor to the Big Bang theory. At the heart of the New Cosmology are the deep connections between the inner space of elementary particles and the outer space of cosmology. Inspired by those connections, the course will focus on dark matter, dark energy, the destiny of the universe, the origin of (ordinary) matter, cosmic inflations, and the multiverse. This course fulfills the Physical Sciences Requirement.

### MLAP 31850. Twentieth Century American Fiction. 100 Units.

This course presents America's major writers of short fiction in the 20th century. We will begin with Willa Cather's "Paul's Case" in 1905 and proceed to the masters of High Modernism, Hemingway, Fitzgerald, Faulkner, Porter, Welty, Ellison, Nabokov, on through the next generation, O'Connor, Pynchon, Roth, Mukherjee, Coover, Carver, and end with more recent work by Danticat, Tan and the microfictionists. Our initial effort with each text will be close reading, from which we will move out to consider questions of ethnicity, gender and psychology. This course fulfills the Humanities Requirement.

### MLAP 32150. Enhancing the Dimensions of Life. 100 Units.

This Course Fulfills an Elective Requirement. This course seeks to explore the question of "enhancing life" from three interrelated perspectives: basic goods, the moral good, and ideas about the transcendent good. Under each perspective on life we will engage (1) a synthetic text about the relation of forms of knowledge aimed at understanding the dynamics of human and non-human life, (2) a classic text about the relation of human life to what is good, and (3) a contemporary text that presents a constructive proposal about the meaning and orientation human life. Readings will include E.O Wilson's The Social Conquest of Earth, Plato's Symposium; Martha Nussbaum's Creating Capabilities; Aristotle's Nicomachean Ethics; and Nietzsche's On the Genealogy of Morals, among several others. The aim of the course is to engage a fundamental aspiration of human existence, that is, the meaning and orientation of enhancing our lives.

### MLAP 32330. Lyric Poetry and Critical Thinking. 100 Units.

This course is based on the premise that poetry used to be at the center of humanistic curricula for a reason. Studying poetry, in addition to its many other pleasures and benefits, is a powerfully effective way to improve the fundamental skills that work in the humanities both requires and develops. Learning to give an adequate account of what a lyric poem is actually saying, on the surface of its text, is a difficult but highly rewarding exercise, one that develops a high degree of critical alertness in reading. Learning to articulate a plausible claim about a poem, and to support that claim with evidence found in the poem's text, sharpens and enhances the skills of argumentative writing and persuasive speaking in a way that few other exercises do. Readings will include lyric poems, mostly originally in English with a few in translation, together with some essays by poets and critics. Coursework will include presentations, online discussion, and a set of graduated writing assignments aimed at learning how to do explication and practical criticism of poems.

### MLAP 32350. Who's Afraid of the Big Bad Poet? 100 Units.

Sad, but true. Many folks who enjoy reading fiction, drama, and memoirs feel considerably less comfortable with poetry. Our course will address this anxiety head on. Through close-textual analyses and strategic contextual sorties, we will examine and experience why poetry has provided pleasure to peoples throughout human history. Our close-reading will engage traditional Forms-ballad, sonnet, villanelle, lyric, epic. Contextually we will explore cultures as disparate as Homeric Greece, ancient Tamil and Tang and Popul Vuh and Hebrew civilizations, and Native American and modernist works from the U.S. Our course will also foreground student writing, by way of two analytic papers, one poem of each person's crafting, and individual tutorials.

Instructor(s): William Veeder Terms Offered: Summer

Note(s): MLA Students Only; This course fulfills the Humanities requirement

### MLAP 33001. The Problem of Evil: From Job to the Present. 100 Units.

If God exists, whence comes evil; and if God does not exist, whence comes good?" (Boethius). This course will consider the theological problem of evil, starting with the Book of Job. We will next investigate the problem from the perspectives of St. Augustine and St. Thomas Aquinas, for whom evil was the major, stumbling block in the proof of God's existence. At issue will be the question of whether the view of evil initiated by Augustine as the "privation of good" represents an adequate explanation of evil. This pursuit will lead into the problem of theodicy: can-or should-God's ways be justified to human beings? We will look at theodicy in selections from the works of Hume, Bayle, Voltaire, Leibniz, and Kant. We will then study several fictional treatments of the problem of evil, including Dostoyevsky's The Brothers Karamazov, Melville's Billy Budd, and the Coen Brothers' movie No Country for Old Men, based on the novel by Cormac McCarthy. Instructor(s): S. Meredith Terms Offered: Autumn

Note(s): MLA Students Only. This course elective requirement and counts toward the Ethics and Leadership concentration and certificate.

### MLAP 33002. Reading Freud: Problems in Psychoanalytic Theory. 100 Units.

This course focuses on the Freud that has been important to work in philosophy, gender and sexuality studies, and literary and cultural studies engaged with those traditions. One thing this means is that we will be reading Freud less for his positions or theories than for his engagement with a set of interlocking problems that have been important for work in those fields over the last 30-40 years. Topics of particular concern will be the relations among psychoanalytic symptoms, the unconscious, and representation; the enigma of sexuality; Freud's development of a radical account of desire and the drives; and Freud's revisionary account of ethics.

Instructor(s): M. Miller Terms Offered: Winter

### MLAP 33004. Foundations of Humanistic Inquiry. 100 Units.

This course offers an introduction to advanced study in the Humanities across a range of fields, including poetry, philosophy, fiction, and film. We will have three main goals. The first is to develop analytical skills common to the Humanities as well as those specific to each of our four fields, as we explore lyric poetry's density of meaning, the subtle conceptual distinctions on which philosophy depends, narrative form and point of view in short fiction, and the roles of the camera and editing in film. Our second goal will be to move from the exercise of those skills in the give and take of conversation to their deployment in writing. Rather than one long term paper, the course requires three short papers, each of which will focus on a different field and its modes of analysis. To add focus to this wide disciplinary range, each of our texts will examine questions of ethics and identity. Our third goal will be to expand our ways of thinking about those central humanistic topics, as they take shape in relation to the different demands and opportunities of our four fields.

Instructor(s): Mark Miller Terms Offered: Autumn Note(s): MLA Students Only. The course fulfills the Humanities requirement.

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### MLAP 33005. Introduction to Political Philosophy. 100 Units.

### MLAP 33200. Models Of Universe. 100 Units.

This course fulfills the Physical Science requirement Many of the activities we honor and cherish in our culture-such as art, literature, music, philosophy, sports, and religion-struggle with the question, "What is our place in the universe?" Our attempts to answer this question have always been influenced by our perception of the answer to another question, "What is the universe?" The size, shape, center, nature, and origin of the universe are some of humanity's oldest and deepest questions. The readings and lectures of this course will trace the development of our view of the universe starting with the Earth-centered cosmology of Aristotle, through the Sun-centered universe. The course focuses on the ideas as well as the people who shaped our view of the universe. The readings and lectures will not require mathematics or physics, only a curiosity about the universe. Readings include: Edward W. Kolb's Blind Watchers of the Sky, Craig Hogan's The Little Book of the Big Bang, Alan Guth's The Inflationary Universe, and Stephen Hawking's A Brief History of Time. Instructor(s): E.Kolb Terms Offered: Spring

### MLAP 33302. From Madness to Mental Health. 100 Units.

In this seminar, we will critically engage and discuss historical and contemporary texts on the topic of "mental health." Whereas early research, practice, and literature tended to characterize people as mad, insane, or crazy, more recent works have adopted the philosophy and language of mental health, well-being, and recovery. Still stigma on mental health remains pervasive, and portrayals in popular culture often dramatize mental illness and the potential dangers that people with mental illness pose to the public good. In this course, we will endeavor to define what is meant by "mental illness" and "mental health," how these definitions are historically, socially, and culturally situated, and how different understandings shape both private and public responses. Course materials will draw from a wide range of disciplines, including psychiatry, psychology, sociology, anthropology, law, public health, and social work, as well as portrayals in popular culture and the narratives of people living with and affected by mental illness. This course fulfills an Elective Requirement.

### MLAP 33350. The Normal and the Pathological: Sickness, Care, and Wellbeing Across Cultures. 100 Units.

Taking its title from an important text by historian and philosopher of medicine Georges Canguilhem, this class considers how sickness, care, and wellbeing have been differently understood and embodied over time and between different cultural settings. Drawing on perspectives from anthropology, sociology, history, and the humanities, we will read a range of classic and contemporary texts to consider three broad themes: individual and social experiences of sickness and disability; systems of intervention, healing, and care; and population-level determinants of health and wellbeing. More broadly, students will be introduced to a number of significant conceptual perspectives across the social sciences, such as hermeneutics, phenomenology, biopower, disability theory, and actor-network theory. Students will complete brief weekly reading responses and one final paper.

Instructor(s): Eugene Raikhel

Note(s): MLA Students Only. This course fulfills the Non-Western Requirement.

### MLAP 33360. COVID-19: the Social Sciences of Health and Medicine. 100 Units.

The perspectives, methods, and concepts of the social sciences of health and medicine are vital in shaping how we understand and concretely respond to pandemics and public health emergencies. This course draws primarily on perspectives from the anthropology, sociology, and history of medicine and health to examine a range of questions raised by the ongoing COVID-19 pandemic. Readings, lectures, and discussions will draw upon key and foundational texts, comparative and historical case studies, and contemporary analyses of COVID-19. Broad topics covered will include: structural health inequalities and disparities; the phenomenology of symptoms and illness experience; social norms of interaction, solidarity, and isolation; disease stigma and racism; governance and the politics of public health interventions; the provision of medical care under conditions of crisis; modeling, prediction, and trust in expertise.

Instructor(s): Eugene Raikhel Terms Offered: Summer. This course will run Weds, 7/15 - 9/9

Note(s): MLA Students Only; This course fulfills the Social Science requirement.

### MLAP 33450. Philosophy and Literature in the 18th Century: Inquiries into the Principles of Ethics. 100 Units.

What are the principles on which our ethical commitments are based? This course examines one of the many directions this perennial question might lead, into an 18th-century debate that continues to resonate today: is ethics based in feelings--in 18th-century terminology, "sentiments"--or in reason? We will explore key arguments for both positions through a close reading of David Hume's 1751 Enquiry Concerning the Principles of Morals and Immanuel Kant's 1785 Groundwork of the Metaphysics of Morals. A central goal of the course will be to understand the conceptual challenges posed by such a question through an appreciation of the work of two of the greatest philosophers in the Western tradition. Another central goal will be to think somewhat to the side of such a question, by asking how the intersection of ethics, sentiments, and reason gets complicated yet further by the social, economic, and political conditions that shape people's investments in them. To this end, and in order to preserve a historical focus relevant to that of our philosophical texts, we will also read some literature of the 18th and 19th centuries that pushes us towards richer understandings of the sociopolitical life of ethics, William Blake's 1789 collection of poetry and visual art Songs of Innocence and of Experience and three short stories by Herman Melville, "Bartleby the Scrivener" (1853), "Benito Cereno" (1855), and "Billy Budd, Sailor" (1888-91). This course fulfills an Elective Requirement.

### MLAP 33501. The Ethnographic Tradition. 100 Units.

This class will introduce students to the practice of ethnographic field work, or participant observation research. Students will read works on the practice of ethnography and actual ethnographic studies to acquire exposure to a variety of theoretical approaches, empirical topics, and debates. Students will also conduct several weeks of ethnographic research, produce field notes, and write a short final paper based on their research. Each week we will discuss the field notes, which students will have exchanged before each session. The class should appeal to students interested in both the social sciences and the humanities, in part because it concerns the study of and reflection upon the human condition in live situations, and in part because the main theoretical approaches to the practice are rooted in deeper philosophical traditions. So, while becoming familiar with ethnographic theory students will be introduced to philosophical strains such as semiotics, existentialism, pragmatism, and phenomenology.

### Instructor(s): Omar McRoberts Terms Offered: Autumn

Note(s): MLA Students Only. This class fulfills the Social Science requirement.

### MLAP 34001. Some Versions of the Apocalypse. 100 Units.

This course fulfills the elective requirement The end of the world is one of the most durable of mankind's obsessions. From prophetic texts of the ancient world to today's fascination with zombie plagues, environmental disaster, and nuclear winter, the genre of apocalypse has proven an extraordinarily fertile way to give expression to religious, moral, political, and economic beliefs and anxieties. In this course we will explore what is both fearful and alluring about catastrophe on an unimaginable scale, as we read and view some paradigmatic apocalyptic works across a wide historical range. The course will focus on close attention to the aesthetics of individual works, locating those works in their historical contexts, and the theoretical analysis of the texts' motivating concerns.

### MLAP 34201. Gods, Heroes and Seekers in Ancient Greek Literature. 100 Units.

### MLAP 34203. The Ancient Greeks on Community, Justice, and Happiness. 100 Units.

What qualities make a life worth living and a life story worth retelling and celebrating? Is there a highest human good? If so, do we reach it through heroic action, through wisdom, or both? Is heroism a problem? Is wisdom a solution? Does the pursuit of individual excellence make us better at living together in communities, or worse? Can we learn something about how to live by telling poetic stories and asking philosophical questions? Why did the hero Achilles quarrel with King Agamemnon and refuse to fight in the Trojan War? What made him put aside his anger in the end? Why did Plato's Socrates regard Homer the poet with reverence, yet banish Homer's poems from his ideal city? We will spend ten weeks engaged with these and related questions while closely reading two central, vital, and exuberant masterworks of ancient Greek thought and literature: Homer's Iliad and Plato's Republic. Instead of reading the two works in sequence, we will bring them into conversation with each other by discussing both at each meeting, starting with the first book of the Iliad and the first book of the Republic.

### MLAP 34204. Aristotle and Homer: Ethics, Happiness, and Homecoming. 100 Units.

Can a hero catch a break? Yes, but it takes time. Often described as the first adventure novel of the Western world, Homer's epic poem The Odyssey recounts the story of the hero Odysseus, driven off course on his return home from Troy. Odysseus' escapades and the struggles of his wife, Penelope, and son, Telemachus, are aided at every turn by the goddess Athena, patroness of strategic thinking and practical wisdom. In Nicomachean Ethics, Aristotle gives the first systematic attempt at answering the question of how to achieve what Greek culture called "happiness" (eudaimonia), the excellence of a fully realized human life, through practical wisdom and ethical virtue. We will read these two inexhaustibly rich texts side by side, focusing on questions of ethics, leadership, and happiness on the journey home.

### Instructor(s): David Wray

Note(s): MLA Students Only. This class fulfills the Humanities requirement, or counts toward the concentration in Ethics and Leadership.

### MLAP 34606. Liberal Arts for Business Lead. 100 Units.

The 21st century will perhaps be remembered one day as the age of humanistic approaches to business. An increasing number of studies show that classic management education (with its focus on quantitative analysis, and functional and technical skills) is no longer sufficient for the complexities of our 21st-century global world. In the real world that business leaders face today, human-created problems from conflict and terrorism to inequality and climate change impact their businesses and require new forms of leading and managing. Even core business questions such as understanding who your customers are or how to get employees to work more efficiently require increasingly creative and supple approaches that go beyond numbers and maths and take into account the full range of human behavior, values and emotions. Thinkers and scholars in the Humanities have reflected for centuries on what it means to be human. Drawing on this deep and broad scholarship (and on a range of Liberal Arts disciplines from the Humanities and qualitative Social Sciences, from philosophy and history to poetry and music), this course provides key perspectives on how the Liberal Arts can bring value to business in several classic areas: Leadership development, Organizational Behavior and Management, Advertising and Marketing, and Strategy.

### MLAP 34703. Colonial Fictions: Adventures, Exoticisms, East, West. 100 Units.

The Age of Empire has bequeathed us a wealth of literary texts, among them adventures tales, such as Rider Haggard's King Solomon's Mines, as well as more serious novels about colonial encounters and life in the colonies, such as E.M. Forster's A Passage to India. At the same time, colonialism introduced the novel as a new literary genre to many literatures in Asia. This course will examine what Empire was in the case of British India and the Dutch East Indies (today's Indonesia) by reading English and Dutch novels together with the work of Asian writers. This will help us develop an idea of how literature was both collusive with and critical of colonialism, how different cultures wrote about their contact with each other, and how the writing of that era has shaped our modern world. This course fulfills the Non-Western Elective Requirement. Instructor(s): S. Ebeling Terms Offered: Autumn

### MLAP 34704. Understanding World Poetry. 100 Units.

Reading poetry is for everyone! This course is an introduction to the study of poetry, providing both the technical knowledge and tools useful for appreciating poetry, as well as an overview of the history of world poetry. We will read and discuss some of the finest and most memorable poems ever written. These will include examples of classical, medieval and modern European poetry in Latin, Greek, English, French, German, Spanish, Italian, Russian and Czech, by some of the most famous European poets (such as Horace, Petrarch, Spenser, Goethe, Schiller, Coleridge, Pushkin, Baudelaire, Rilke, Garcilaso de la Vega, and Mácha), but also examples from non-European languages such as Chinese, Japanese, Sanskrit and Tamil. The temporal range will be from ancient Indian poems composed about 1500 BCE to poems about the civil war in Sri Lanka written in 2015.

Instructor(s): Sascha Ebeling Terms Offered: Autumn

Note(s): MLA Students Only. This course fulfills the Non-Western elective requirement.

### MLAP 34850. The Moral Arc of America: Justice, Morals, and Power in U.S. History. 100 Units.

This course examines pivotal issues and moments in U.S. history, where morals, justice and power took on heightened urgency, becoming focal points of public debate. With an eye to present-day concerns, the course will explore race and slavery; bodily autonomy; freedom of speech and assembly; and the market as a model in a democracy. We will study both the voices of actors in the past and influential historical writing, examining contending views, resolutions reached or not reached, tracing the play of debate in a range of sources, including speeches, stories, political debates, and legal cases. Instructor(s): Amy Dru Stanley

Note(s): MLA Students Only; this course fulfills an elective requirement and can count towards the Ethics and Leadership concentration

### MLAP 35102. The Politics of Taste. 100 Units.

Instructor(s): L.Rothfield Terms Offered: Winter

### MLAP 35104. Cultural Heritage and Cultural Diplomacy. 100 Units.

### MLAP 35105. Imagining the City. 100 Units.

The rise of the modern city makes possible new modes of experience, new kinds of people, and new kinds of stories. To appreciate these novelities, we will start by looking at sociologist Georg Simmel's "The Metropolis and Mental Life." Then we will explore how writers and filmmakers have tried to capture this experience of city life in different genres (the detective story, romantic comedy, modernist poetry, realism), and from different social perspectives. Texts and films may include Dr. Jekyll and Mr. Hyde; The Big Sleep; Do the Right Thing; Manhattan; "The Waste Land"; "Sonny Blues"; Blade Runner; and Lost in Translation.

Instructor(s): Lawrence Rothfield. Terms Offered: Autumn

Note(s): MLA Students Only. This course fulfills an elective requirement.

### MLAP 35106. Heritage: Law, Ethics, Policy. 100 Units.

What is worthy of preservation, and why? What kinds of relationship to the past, to memory and forgetting, are at stake in defining heritage? What are the different ways of categorizing the kinds of heritage, and what distinct problems of preservation do these different kinds of heritage present? What ethical principles can help guide the way we deal with heritage controversies? Should the government be involved in heritage protection, and if so, why? What tools of government action -- criminalization, incentivization, regulation, etc. -- have been used to preserve heritage in various situations, and with what consequences? We will take up these questions through a series of case studies ranging from the Elgin Marbles debate to the confrontations over confederate monuments to the designation of a "whistling language" and the struggle over whether tribes or scientists should have control of the body of an ancient Native American.

### MLAP 35107. The Florentine Renaissance. 100 Units.

This course offers an introduction to the intellectual, social, and political transformations that are reflected in the astounding explosion of artistic creativity that occurred in Florence in the years 1400-1540.

Instructor(s): Lawrence Rothfield

Note(s): MLA Students Only; this course fulfills and elective requirement

### MLAP 36000. History of Ethics. 100 Units.

The topic of this course is the question, "How should I live?" This question is here stated in the singular. But as Aristotle observed, the human being is by nature a social animal. For creatures such as us, the singular question cannot be cleanly separated from one in the plural: "How should we live together?" We approach this interlocking pair of questions through examination of a long and rich tradition of philosophical reflection upon them-a tradition initiated by the ancient Greeks, transformed in the Enlightenment, and put under pressure by skeptics and critics of the 19th and 20th centuries. Readings include Plato, Aristotle, the Stoics, Hume, Kant, Wollstonecraft, Sidgwick, Nietzsche and Anscombe. Topics include happiness, purpose, virtue, fortitude, rights, obligations, sympathy, integrity and oppression. Instructor(s): Jason Bridges Terms Offered: Spring

Note(s): MLA Students Only. This course fulfills an elective requirement, or can count towards the concentration in Ethics and Leadership.

### MLAP 39900. MLA Thesis / Special Project. 100 Units.

MLA Paper project course.

Instructor(s): TBD Terms Offered: Summer, Autumn, Winter, Spring

MLAP 39901. Thesis Extension. 000 Units.

MLAP 45801. Hinduism: Sources and Contexts. 100 Units.

### MLAP 45802. The Ramayana in Indian History. 100 Units.

The great Hindu Epic, the Ramayana, tells the story of prince Rama's recovery of his wife, Sita, when she had been abducted by the demon Ravana and kept for many years on the island of Lanka. First recorded in Sanskrit before the beginning of the Common Era, it was retold in many languages over many centuries and was used by different groups with different agendas, especially after Rama came to be regarded as an incarnation of che god Vishnu. Rama's brutal repudiation of Sita was disputed by women in their retellings; and the demon Ravana was used to represent various demonized enemies, Tamils (by Hindi-speakers) and Hindi-speakers (by Tamils).
# MLAP 45950. Pursuits of Happiness in Chinese Cinema. 100 Units.

This course will offer an in-depth introduction to Chinese cinema from the 1930s to the present. We will explore a variety of films and genres, situating them in their historical and social contexts, analyzing their forms and techniques, and investigating how they appropriate and adapt elements from other national cinemas as well as from other media such as theater and photography. The premise for this course is that movies entertain, move, and mobilize audiences by presenting explicit or implicit visions of happiness, or of how to be happy and lead a meaningful life. Such visions are, of course, historically specific, and they may be at work even in unhappy or bleak films that do not seem to offer any promise of redemption. Through the lens of cinema, this class will offer an opportunity to learn about the desires and aspirations underlying the social and political upheavals of twentieth- and twenty-first-century China.

# MLAP 45960. Historical Perspectives on Chinese Culture. 100 Units.

Do the past fifty years of China's development represent the "rise" of a new entity or a "return" to a state of central importance? In order to answer the question, this course addresses development of the Chinese state, society, and culture from its earliest existence to the present. The view through time provides an introduction to Chinese culture, its distinctive characteristics, evolution and history. Each week's readings center on a question of broad historic significance for further class discussion. No background in Chinese studies is required. This course fulfills the Non-Western Requirement.

## MLAP 46000. Ulysses. 100 Units.

James Joyce's Ulysses is often referred to as one of the greatest novels in English literature. The breadth of humor, depth of character, musical prose, and streams of consciousness have captivated readers whether they know how Homer's Odyssey or not. This course combines close attention to the text of Ulysses with readings and occasional brief lectures designed to give a sense of some of the critical approaches available for interpreting Joyce's novel, ranging from psychoanalysis to anthropology to cultural studies. The primary goal is to provide a supportive analytical framework within which the group can develop a feeling of familiarity and pleasure in encountering and interpreting this complex novel. Instructor(s): L. Ruddick Terms Offered: Autumn

# MLAP 46202. Religious Law, Secular Law, and Sexual Deviation in Ancient India. 100 Units.

This course will compare these three important texts in order, first, to understand the social norms for religion and sexuality in ancient India (in The Laws of Manu); and then to discover how two widely accepted scientific texts (the Kamasutra, on pleasure, and the Arthasastra, on politics) challenged those norms.

Instructor(s): W. Doniger Terms Offered: Winter

# MLAP 46300. Africa and the World: Ancient to Early Modern Times. 100 Units.

This class introduces students to ancient, medieval, and early modern African states and societies. The first half of the course focuses on ancient Egypt, empires of West Africa, the maritime worlds of the Swahili Coast, the pastoral peoples of Great Zimbabwe, and the highlands of Ethiopia. The second half of the course investigates Africa in the era of the trans-Atlantic slave trade. We will study the history of slavery in Africa and also consider the transformations on the continent wrought by the demand in the Americas for enslaved peoples from Africa.

Instructor(s): Emily Osborn

Note(s): MLA Students Only; the course fulfills the non-western elective requirement

# MLAP 49900. Independent Study. 100 Units.

With the prior approval of the MLA Program Office, students may enroll in this course to pursue an independent study under the guidance of a faculty member. Contact the Program Office with any questions.

Instructor(s): TBD Terms Offered: Autumn Spring Summer Winter

Note(s): Need MLA director approval to register.



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# Master of Science in Analytics

The Master of Science in Analytics will give students thorough knowledge of techniques in the field of analytics, and the ability to apply them to real-world business scenarios. Building from a core in applied statistics, students will be provided with advanced analytical training to develop their ability to draw insights from big data, including: data collection, preparation and integration; statistical methods and modeling; and other sophisticated techniques for analyzing complex data. The program is highly applied in nature, integrating business strategy, project-based learning, simulations, case studies, and specific electives addressing the analytical needs of various industry sectors. Through partnerships with key employers, the program also provides students with applied projects and data sets as well as access to career networks and employment pathways upon graduation.

- Program type: masters degree program
- Program structure, courses, requirements, and application (https://grahamschool.uchicago.edu/credit/masterscience-analytics/index/)
- Location: Gleacher Center and Cityfront Center (NBC Tower)
- · Full-time: weekday, weekday evening, and Saturday classes available
- · Part-time: weekday evenings and Saturday classes available
- Time to completion: 1-4 years
- Only courses with a grade of B- or better will count toward degree requirements

Minimum g.p.a. for satisfactory academic progress: 2.7

## Admission criteria:

- Online application
- One transcript from each prior academic institution
- Candidate statement
- Resume or CV

Applicants who attended an international university must also:

- Satisfy English language proficiency requirement
- Provide course by course evaluation

# Program requirements:

12 course curriculum (Academic Year 2020-21 entering students)

- Stats Bootcamp (noncredit)
- Foundational Skills courses (1-2 non-credit courses, depending on program experience)
- Core courses (7)
- Electives (3)
- Capstone project (2)

## -OR-

13 course curriculum (available for Autumn 2020 entering students ONLY)

- Stats Bootcamp (noncredit)
- Foundational Skills courses (1-2 non-credit courses, depending on program experience)
- Core courses (9)
- Electives (2)
- Capstone project (2)

## Foundational Courses (1-2):

Foundation courses provide the basis for our rigorous analytics degree that will support the theoretical, strategic, and practical analytics studies in more advanced courses. Students with sufficient preparation may be eligible to bypass the programming course.

Pre-quarter foundational courses:

- Based on results of a linear algebra pre-test, students may also be required to take the following non-credit course
- Linear Algebra (online course required prior to program start)
- MSCA 31000 Introduction to Statistical Concepts (non-credit, online course required prior to program start)

- MSCA 37016 Advanced Linear Algebra for Machine Learning (non-credit, online course required prior to program start)
- MSCA 37006 R Workshop

First quarter foundational course

MSCA 37010 Programming for Analytics (noncredit)

- Introduction to Statistical Concepts (non-credit, online course required prior to program start)
- Based on results of a pre-test, students may also be required to take the following non-credit courses:
  - Linear Algebra (online course required prior to program start)
    - MSCA 37010: Programming for Analytics

MScA Core requirements:

- MSCA 31006 Time Series Analysis and Forecasting
- MSCA 31007 Statistical Analysis
- MSCA 31008 Data Mining Principles
- MSCA 31009 Machine Learning & Predictive Analytics
- MSCA 31010 Linear and Non-Linear Models
- MSCA 31012 Data Engineering Platforms for Analytics
- MSCA 31003 Leadership Skills
- MSCA 31001 Research Design for Business Applications
- MSCA 31013 Big Data Platforms

# MScA Electives:

- MSCA 31013 Big Data Platforms
- MSCA 32001 Financial Analytics
- MSCA 32003 Marketing Analytics
- MSCA 32004 Risk Analytics
- MSCA 32005 Real Time Analytics
- MSCA 32007 Data Visualization Techniques
- MSCA 32009 Health Analytics
- MSCA 32013 Optimization and Simulation Methods for Analytics
- MSCA 32014 Bayesian Methods
- MSCA 32015 Digital Marketing Analytics in Theory and Practice
- MSCA 32017 Advanced Machine Learning & Artificial Intelligence
- MSCA 32018 Natural Language Processing and Cognitive Computing
- MSCA 32019 Real-Time Intelligent Systems
- MSCA 32020 Reinforcement Learning

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Capstone project:

- MSCA 34000 Capstone Project Implementation
- MSCA 34001 Capstone Project Writing

Autumn 2020 students selecting the thirteen course program will take over three quarters MSCA 31001: Research Design for Business Applications and the following two capstone courses

- MSCA 34000 Capstone Project Implementation (only option for students starting in Autumn 2020 selecting a thirteen course curriculum)
- MSCA 34001 Capstone Project Writing (only option for students starting in Autumn 2020 selecting a thirteen course curriculum)

Non-credit workshops & short courses

- MSCA 37001 Hadoop Workshop
- MSCA 37002 Linux Workshop
- MSCA 37003 Python Workshop
- MSCA 37006 R Workshop
- MSCA 37011 Deep Learning & Image Recognition
- MSCA 37013 Ethics In Big Data Analytics

- MSCA 37014 Python for Analytics
- MSCA 37015 Introduction to Ethics in Data Analytics
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## M.S. in Analytics Courses

# MSCA 31000. Introduction to Statistical Concepts. 000 Units.

This course provides general exposure to basic statistical concepts that are necessary for students to understand the content presented in more advanced courses in the program. The course covers theoretical distributions and the way these distributions are used to assign probabilities to events in some depth. The course also introduces students to descriptive statistical methods to explore and summarize data, methodologies for sampling units for measurement or analysis, drawing inferences on the basis of knowledge gained from samples to populations, assessing relationships between variables, and making predictions based upon relationships between variables.

Terms Offered: Autumn Spring

# MSCA 31001. Research Design for Business Applications. 100 Units.

In addition to theory and experimentation, big data analytics has now emerged as an alternative way to discover new knowledge. This course covers the analytics research process from the translation of business problems into researchable questions that can be addressed by using analytics, development of data sources to address each key researchable issue, to the translation of research results back to business implications. By completing the course, students will be able to: frame a business problem; map alternative solutions to develop a plan; identify potential sources or relevant data; understand analytical principles that can be applied to design data-gathering experiments; explain the pros and cons of the selected methodology to the analytical team as well as non-analysts. Students will develop a research proposal to produce knowledge from data to address a real business problem in small steps throughout the course.

## MSCA 31003. Leadership Skills. 100 Units.

In Leadership Skills: Teams, Strategies, and Communications, students learn how to work effectively in teams to identify, structure, and communicate the business value of data analytics to an organization. The goals of the course are (1) to identify points in an organization that can benefit from analytics; (2) to structure analytic problems from a strategic perspective, thereby identifying business impact; (3) to develop the ability to communicate the power of analytics to others, especially senior leaders; and (4) to work in a team to accomplish these and related goals successfully. At the end of the course, students should have the ability to describe business problems that lend themselves to a data analytics to a business audience. Students should also understand how to harness the powerful dynamics of a team to achieve excellence in the world of data analytics.

Terms Offered: Autumn Spring Summer Winter

#### MSCA 31006. Time Series Analysis and Forecasting. 100 Units.

Time Series Analysis is a science as well as the art of making rational predictions based on previous records. It is widely used in various fields in today's business settings. For example, airline companies employ time series to predict traffic volume and schedule flights; financial agencies measure market risk via stock price series; marketing analysts study the impact of a newly proposed advertisement by the sales series. A comprehensive knowledge of time series analysis is essential to the modern data scientist/analyst. This course covers important issues in applied time series analysis: a solid knowledge of time series models and their theoretical properties; how to analyze time series data by using mainstream statistical software; practical experience in real data analysis and presentation of their findings in a logical and clear way to various audiences.

Terms Offered: Autumn Spring Summer Winter Prerequisite(s): MSCA 31007: Statistical Analysis

# MSCA 31007. Statistical Analysis. 100 Units.

This course provides a comprehensive and practical introduction to statistical data analysis. The statistical techniques taught in this course will enable students to analyze complex datasets and formulate and solve real-world problems to facilitate data-driven decisions. Throughout the course, students will learn concepts and fundamentals of statistical inference and regression analysis by studying theory, developing intuition, and working through several practical examples. Students will become proficient in interpreting standard regression output and conducting model selection and validation. Students will also learn the statistical programming language used to construct examples and homework exercises. Examples will be constructed using R. Students will have many opportunities to apply the new concepts to real data and develop their own statistical routines. The course also addresses the importance of quality control and reproducibility when conducting research and developing work product.

Terms Offered: Autumn Spring Summer Winter

Prerequisite(s): MSCA 31000: Introduction to Statistical Concepts

## MSCA 31008. Data Mining Principles. 100 Units.

Drawing on statistics, artificial intelligence and machine learning, the data mining process aims at discovering novel, interesting and actionable patterns in large datasets. This class will introduce the student to the fundamentals of data mining: association and sequence rules discovery, memory-based reasoning, classification and regression decision trees, comparison of data mining models, logistic models, scorecard models, and neural network models. The class follows a learn-by-doing approach in which the student will complete bi-weekly assignments using real world datasets. The student will also propose and complete a data mining research project of their own design.

Terms Offered: Autumn Spring Summer Winter

Prerequisite(s): MSCA 31007: Statistical Analysis

# MSCA 31009. Machine Learning & Predictive Analytics. 100 Units.

This course in advanced data mining will provide a practical, hands-on set of lectures surrounding modern predictive analytics and machine learning algorithms and techniques. It will emphasize practice over mathematical theory, and students will spend a considerable amount of class time gaining experience with each algorithm using existing packages in R, Python, and Linux libraries. The course will cover the following topics: regression and logistic regression, regularized regression including the lasso and elastic net techniques, support vector machines, neural networks, decision trees, boosted decision trees and random forests, online learning, k-means and special clustering, and survival analysis.

Terms Offered: Autumn Spring Summer Winter

Prerequisite(s): MSCA 31008: Data Mining Principles, MSCA 31010: Linear and Non-Linear Models for Business Applications, MSCA 37014: Python for Analytics

# MSCA 31010. Linear and Non-Linear Models. 100 Units.

This course concentrates on the following topics: Review of statistical inference based on linear model, extension to the linear model by removing the assumption of Gaussian distribution for the output (Generalized Linear Model), extension to the linear model by allowing a correlation structure for the model residuals (mixed effect models), and extension of the linear model by relaxing the requirement that inputs are combined linearly (nonparametric regression, regime switches). Course emphasizes applications of these models to various fields and covers main steps of building analytics from visualizing data and building intuition about their structure and patterns to selecting appropriate statistical method to interpretation of the results and building analytical model. Topics are illustrated by data analysis projects using R. Familiarity with R at some basic level is not a requirement but recommendation. Students can pick up the programming language by following the descriptions of the examples.

Terms Offered: Autumn Spring Summer Winter

Prerequisite(s): MSCA 31007: Statistical Analysis

# MSCA 31011. Statistical Analysis Review. 000 Units.

Lab / TA review session to supplement MSCA 31007: Statistical Analysis

# MSCA 31012. Data Engineering Platforms for Analytics. 100 Units.

Effective data engineering is an essential first step in building an analytics-driven competitive advantage in the market. Modern data engineering platforms reduce manual data preparation by automating processes, which in turn, enable companies to focus on deriving efficiencies in data processing to develop impactful business insights. This course provides students with a thorough understanding of the fundamentals of data engineering platforms, for both operational and analytical use cases, while gaining hands-on expertise in building these platforms in a way to develop analytical solutions effectively. Students will have the opportunity to construct both relational and analytical databases on the cloud or on premise from real-life datasets while using programmatic or configuration driven data pipelines. By the end of the course, students will be able to design and implement an end-to-end data engineering platform capable of supporting sustainable analytics solutions.

Terms Offered: Autumn Spring Summer Winter

# MSCA 31013. Big Data Platforms. 100 Units.

This course teaches students how to approach Big Data and large-scale machine learning applications. While there is no single definition of Big Data and multiple emerging software packages exist to work with Big Data, we will cover the most popular approaches. Students will learn the Big Data infrastructure, including Linux, Massive parallelization and Distributed Computing, and how to apply both Hadoop and Spark map-reduce concepts for clustering, similarity search, web analytics and classification. During the course, we will cover the applications of NoSQL systems, such as JSON stores, object storage and Elasticsearch. The cloud computing section of the course will focus on virtualization and container orchestration, including virtual machines, dockers and Kubernetes. During the course students will gain hands-on expertise leveraging Hive, Pig, Python and PySpark for Big Data applications in client-server environment.

Terms Offered: Autumn Spring Summer Winter

Prerequisite(s): MSCA 31012: Data Engineering Platforms for Analytics; MSCA 31009 Machine Learning and Predictive Analytics

#### MSCA 31015. Data Science for Consulting. 100 Units.

The demand for analytics and data-driven decision making creates a market demand for expertise driven leadership - evidenced in knowledgeable consultants that bring data science and results-driven impact to clients. The successful data science leader / consultant brings an uncommon combination of deep business acumen, data literacy, leading edge methodology experience, inspirational team leadership, client communication management and organizational change skills. Successful consultants rely on a variety of consulting tools to diagnose organizational problems, identify solutions and deliver those solutions. The Data Science for Consulting course will enable students: 1) Understanding the structure of consulting organizations and engagements 2) Developing data science solutions to enterprise problems through employing traditional consulting frameworks and best practice tools. 3) Practicing successful roject delivery through effective data discovery, communication, influential team leadership and client relationship management.

Instructor(s): Gregory Green, Marco Serrato, Donald Patchell Terms Offered: Autumn Spring Summer Winter Prerequisite(s): Restricted to MSCA & MSAP students only.

#### MSCA 32001. Financial Analytics. 100 Units.

This course concentrates on the following topics: review of financial markets and assets traded on them; main characteristics of financial analytics: returns, yields, volatility; review of stochastic models of market price and their statistical representations; concept of arbitrage, elements of arbitrage pricing approach; principles of volatility analyses, implied vs. realized volatility; correlation, cointegration and other relationships between various financial assets; market risk analytics and management of portfolios of financial assets. The course puts special emphasis on covering main steps of building analytics from visualizing data and building intuition about their structure and patterns to selecting appropriate statistical method to interpretation of the results and building analytical models. Topics are illustrated by data analysis projects using R. Basic familiarity with R is a requirement.

Terms Offered: Summer Winter

Prerequisite(s): MSCA 31007: Statistical Analysis

#### MSCA 32003. Marketing Analytics. 100 Units.

This course focuses on marketing analytics methods and applications that are used to develop marketing strategies, and create a link between marketing, customer behavior and business outcome. The course will emphasize multivariate analytical techniques organized according to the Strategic Marketing Process. The course would cover strategic analytical approaches such as strategic competitive analysis and market sizing, market segmentation, targeted marketing via database marketing, design of new products, market sizing & forecasting via diffusion models, product positioning via perceptual mapping, analytics in the digital world, pricing and promotions, marketing effectiveness and ROI. The class instruction/discussion will cover some theory and methods, but will assume that students have knowledge of various statistical methods and software used to address practical business problems and/or case studies. At the end of this course, students will become familiar with key existing and emerging marketing issues, and research/analytics approaches to address them from a practical perspective. This course will prepare the students to implement and deliver quantitative research that may leverage complex methods in a manner suitable for business: help them bring knowledge rooted in analytics into the decision making process, and communicate their choices/recommendations clearly.

#### MSCA 32004. Risk Analytics. 100 Units.

This course teaches analytical tools commonly employed in the areas of credit and insurance risk. In the area of credit risk, students at the end of the course should be able to: Understand the business problems and their challenges in the consumer credit risk analytics, design and apply analytical approaches tailored to each problem, and identify and address the underlying assumptions in the designed approaches. In the area of insurance risk, students should be able to: Understand various risks related to the insurance business, in particular the underwriting or pricing risks, quantify and price an individual insurance risk exposure and construct customer segmentation by using statistical and actuarial approaches, and assess company's overall risk management performance at the portfolio level.

Terms Offered: Summer

Prerequisite(s): MSCA 31007: Statistical Analysis

## MSCA 32005. Real Time Analytics. 100 Units.

One of the most actively developing areas of analytics is the real time analytics because of the growing number of data sources capable of collecting data round the clock in ever-larger amounts and with more complex structure; penetration of smart sensors everywhere where data collection used to be not possible, from micro to macro world and into hostile environments unsuitable for human observers; increasing demand for decisions made at latencies below human reaction time. Conducting real time analysis is different from the traditional data analysis in batch mode. Streaming data makes the very concept of sample nonexistent. Usual static sample characteristics, like p-value turn into dynamically changing processes. The old statistical concept of sufficient statistics may be getting a whole new meaning in the context of streaming data. The focus of the course is on stochastic methods suitable for real time analysis and their statistical implementations. Students will work with real data streaming live from the course server. We will learn about stochastic processes observed at random times and apply them to problems of monitoring, early event detection, prediction and control. Students are expected to be comfortable enough with R to write software for processing and responding to streaming data.

Prerequisite(s): MSCA 31006: Time Series and Forecasting Analysis

## MSCA 32007. Data Visualization Techniques. 100 Units.

This course teaches students how to work with real-world data and leverage analytics to help solve business problems. We will examine data requirements and sources of data; utilize statistical techniques and visualization methods to evaluate data completeness and quality; assess and compare model performance; learn how to effectively communicate analytical insights to non-technical audience. Students will learn through a combination of in-class discussions, case studies, and team projects. Team exercises will teach students effectively communicate between business process owners and analytical experts to overcome typical barriers in Business Analytics, such as data availability, resource constraints, and resistance to change. Terms Offered: Winter

# MSCA 32009. Health Analytics. 100 Units.

Given the breadth of the field of health analytics, this course will provide an overview of the development and rapid expansion of analytics in healthcare, major and emerging topical areas, and current issues related to research methods to improve human health. We will cover such topics as security concerns unique to the field, research design strategies, and the integration of epidemiologic and quality improvement methodologies to operationalize data for continuous improvement. Students will be introduced to the application of predictive analytics to healthcare. Students will understand factors impacting the delivery of quality and safe patient care and the application of data-driven methods to improve care at the healthcare system level, design approaches to answering a research question at the population level, become familiar with the application of data analytics to impacting care at the provider level through Clinical Decision Systems, and understand the process of a Clinical Trail.

Terms Offered: Winter

# MSCA 32010. Linear Algebra and Matrix Analysis. 100 Units.

The objective of this course is to provide students a strong foundation on linear equations and matrices. On completion of this course, students will be able to formulate, apply and interpret systems of linear equations and matrices, interpret data analytics problems in elementary linear algebra, and demonstrate understanding of various applications using linear transformations.

Terms Offered: Autumn Spring

# MSCA 32013. Optimization and Simulation Methods for Analytics. 100 Units.

This course introduces students to how optimization and simulation techniques can be used to solve many real-life problems. It will cover two classes of optimization methods. First class has been developed to optimize real, non- simulated systems or to find the optimal solution of a mathematical model. The methods that belong to this class include liner programming, quadratic programming and mixed-integer programming. Second class of methods has been developed to optimize a simulation model. The difference with the classical mathematical programming methods is that the objective function (which is the function to be minimized or maximized) is not known explicitly and is defined by the simulation model (computer code). The course will demonstrate multiple approaches to build simulation models, such as discrete event simulations and agent-based simulations. Then, it will show how stochastic optimization and heuristic approaches can be used to analyze the simulated system and design a sequence of computational experiments that allow to develop a basic understanding of a particular simulation model or system through exploration of the parameter space, to find robust plausible behaviors and conditions and robust near-optimal solutions that are not prone to being unstable under small perturbations. Terms Offered: Summer Winter

Prerequisite(s): MSCA 31007: Statistical Analysis

## MSCA 32014. Bayesian Methods. 100 Units.

Bayesian inference is a method of statistical learning in which Bayes' theorem is used to understand probability distributions of unobserved variables, like model parameters or predictions for future observations. Bayesian analysis is especially important because it naturally allows updating the probability for a model or hypothesis as more evidence or information becomes available. This property of Bayesian approach plays significant role in dynamic analysis of a sequences of data. Applications of Bayesian analysis have exploded in recent period thanks to advances in computing techniques that made Bayesian approaches like Gibbs sampling, Markov Chain Monte Carlo, Dirichlet processes the main tools for advanced machine learning. The focus of this course is on foundations of Bayesian approach, its applications via hierarchical models, linear and generalized linear models, mixed models and various types of Bayesian decision making. Students will learn necessary facts of probability theory, fundamentals of Bayesian method as well as most modern applications of the approach by accessing through R important software products for efficient sampling: JAGS and STAN. Students, are expected to be comfortable with coding in R and ready to learn new concepts of theory and practice of Bayesian approach. Terms Offered: Autumn Spring

Prerequisite(s): MSCA 31010: Linear and Non-Linear Models

# MSCA 32015. Digital Marketing Analytics in Theory and Practice. 100 Units.

Successfully marketing brands today requires a well-balanced blend of art and science. This course introduces students to the science of web analytics while casting a keen eye toward the artful use of numbers found in the digital space. The goal is to provide marketers with the foundation needed to apply data analytics to real-world challenges they confront daily in their professional lives. Students will learn to identify the web analytic tool right for their specific needs; understand valid and reliable ways to collect, analyze, and visualize data from the web; and utilize data in decision making for their agencies, organizations or clients. By completing this course, students will gain an understanding of the motivations behind data collection and analysis methods used by marketing professionals; learn to evaluate and choose appropriate web analytics tools and techniques; understand frameworks and approaches to measuring consumers' digital actions; earn familiarity with the unique measurement opportunities and challenges presented by New Media; gain hands-on, working knowledge of a step-by-step approach to planning, collecting, analyzing, and reporting data; utilize tools to collect data using today's most important online techniques; performing bulk downloads, tapping APIs, and scraping webpages; and understand approaches to visualizing data effectively.

Terms Offered: Autumn

# MSCA 32017. Advanced Machine Learning & Artificial Intelligence. 100 Units.

Machine Learning (ML) is a subject evolving and redefining itself with an enormous pace. Just a few years ago it was difficult to tell where the classical statistical analysis ends and the new "cool" subject of ML begins: both have as their main goal extracting information from the data, thus learning; the name ML suggests that learning is done by a machine, but what it actually means is not always clear. For example, what does machine learn by fitting linear or logistic regression which are still the most common machine learning algorithms? It seems like the difference is finally becoming more clear. The ultimate goal of learning is shifting from fitting a model by it to using it for making decisions BY MACHINE. This puts main focus on combination of machine learning and artificial intelligence (AI). This course continues building up the material covered in Linear and Nonlinear Models for Business Application (MScA 31010) and Machine Learning and Predictive Analytics (MScA 31009). The main emphasis is on application of learning to different AI tasks. The course is project-based. Students will work on problems like segmentation of images using convolutional neural networks, speech recognition using hybrid of hidden Markov models and deep learning, anomaly detection using deep autoencoders, building self-learning processes using reinforcement learning algorithms, analyzing online conversations using recurrent neural networks.

Terms Offered: Summer Winter

Prerequisite(s): MSCA 31009: Advanced Machine Learning & Artificial Intelligence Recommended: MSCA 37011 Deep Learning & Image Recognition

# MSCA 32018. Natural Language Processing and Cognitive Computing. 100 Units.

Extracting actionable insights from unstructured text and designing cognitive applications have become significant areas of application for analytics. Students in this course will learn foundations of natural language processing, including: concept extraction; text summarization and topic modeling; part of speech tagging; named entity recognition; semantic roles and sentiment analysis. For advanced NLP applications, we will focus on feature extraction from unstructured text, including word and paragraph embedding and representing words and paragraphs as vectors. For cognitive analytics section of the course, students will practice designing question answering systems with intent classification, semantic knowledge extraction and reasoning under uncertainty. Students will gain hands-on expertise applying Python for text analysis tasks, as well as practice with multiple IBM Watson services, including: Watson Discovery, Watson Conversation, Watson Natural Language Classification and Watson Natural Language Understanding. Prerequisites: MSCA 31013 Big Data Platforms and MSCA 31007 Statistical Analysis

Terms Offered: Autumn Spring

Prerequisite(s): MSCA 31008: Data Mining Principles

# MSCA 32019. Real-Time Intelligent Systems. 100 Units.

Developing end-to-end automation and intelligent systems is now the most advanced area of application for analytics. Building such systems requires proficiency in programming, understanding of computer systems, as well as knowledge of related analytical methodologies, which are the skills that this course aims to teach to students. The course focuses on python and is tailored for students with basic programming knowledge in Python. The course is partially project based. During the first three sessions, we will review basic python concepts and then learn more advanced python and the ways to use Python to handle large data flows.#The later sessions are project based and will focus on developing end-to-end analytical solutions in the following areas: Finance and trading, blockchains and crypto-currencies, image recognition, and video surveillance systems.

Terms Offered: Autumn

Prerequisite(s): MSCA 31007: Statistical Analysis Recommended: MSCA 37014: Python for Analytics

# MSCA 32020. Reinforcement Learning. 100 Units.

This course is an introduction to reinforcement learning, also known as neuro-dynamic programming. It discusses basic and advanced concepts in reinforcement learning and provides several practical applications. Reinforcement learning refers to a system or agent interacting with an environment and learning how to behave optimally in such environment. An environment typically includes time, actions, states, uncertainty and rewards. Reinforcement learning combines neuro networks and dynamic programming to find an optimal behavior or policy of the system or agent in complex environment setting. Neuro networks approximations are used to circumvent the well-known 'curse of dimensionality' which have been a barrier to solving many practical applications. Dynamic programming is the key learning mechanism that the system or the agent uses to interact with the environment and improve its performance. Students will master key learning techniques and will become proficient in applying these techniques to complex stochastic decision processes and intelligent control. Terms Offered: Spring Summer Winter

Prerequisite(s): MSCA 31007 Statistical Analysis

#### MSCA 32021. Machine Learning Operations. 100 Units.

The objective of this course is two-folds - first, to understand what Machine Learning Operations (MLOps) is and why it is a key component in enterprise production deployment of machine learning projects. Second, to expose students to software engineering, model engineering and state-of-the-art deployment engineering with hands-on platform and tools experience. This course crosses the chasm that separates machine learning projects/experiments and enterprise production deployment. It covers 3 pillars in MLOps: software engineering such as software architecture, Continuous Integration/Continuous Delivery and data versioning; model engineering such as AutoML and A/B experimentation; and deployment engineering such as docker containers and model monitoring. The course focuses on best practices in the industry that are critical to enterprise production deployment of machine learning projects. Having completed this course, a student understands the machine learning lifecycle and what it takes to go from ideation to operationalization in an enterprise environment. Furthermore, students get exposure to state-of-the-art MLOps platforms such as allegro (https://allegro.ai/), xpresso https://abzooba.com/ xpresso-ai), Dataiku (https://www.dataiku.com/), LityxIQ (https://lityx.com/), DataRobot (https://www.datarobot.com/), AWS Sagemaker (https://aws.amazon.com/sagemaker/), and technologies such as gitHub, Jenkins, slack, docker, and kubernetes.

Instructor(s): Arnab Bose Terms Offered: Autumn

# MSCA 34000. Capstone Project Implementation. 100 Units.

The capstone project implementation course is an independent study offered during the second quarter of the three-quarters long capstone process. With the guidance of a faculty member, student teams implement the capstone proposal written as part the Research Design for Business Applications course completed during the first quarter. Teams engineer an analytical solution and develop insights from data that would address the problem posed by the client industry partner. Prerequisites: MSCA 31001 Research Design for Business Applications and Approved Capstone Proposal.

# MSCA 34001. Capstone Project Writing. 100 Units.

Capstone Project writing is the last course in which teams complete the capstone process by writing a report and developing a presentation that describe the analytical solution they devised to address a problem posed by their client industry partners. Teams submit the report to the program as well as the client partner and present their findings in the MScA Capstone Showcase at the end of the quarter.

Terms Offered: Autumn Spring Winter

Prerequisite(s): MSCA 31001 Research Design for Business Applications and Approved Capstone Proposal.

## MSCA 37001. Hadoop Workshop. 000 Units.

This short course is designed to provide a brief, practical introduction to working with data on a Hadoop cluster. The course is aimed at students with no prior knowledge of Hadoop. Topics covered include loading data into Hadoop cluster, using Hive HQL and using Pig script language. Course includes live demos and tutorials so students should complete exercises in class. Students who complete the course will acquire skills to be able to take further studies in Big Data and Text Analytics course.

#### MSCA 37002. Linux Workshop. 000 Units.

This short practical course is designed to provide a brief introduction to Linux operating system. It is aimed at students with no prior knowledge of Linux. Topics covered include uploading files to Linux account, working with files in Linux and managing processes in Linux shell. The course includes live demos and tutorials. Students who complete this tutorial course will acquire skills to be able to take further studies in Big Data and Text Analytics course.

## MSCA 37003. Python Workshop. 000 Units.

This short course is designed to provide a brief introduction to Python programming language to students with no prior knowledge of Python. Topics covered in the course include Python data types, reading/writing data files, flow control in Python and working with Python modules. The course also introduces Spyder and Jupyter GUIs. Students who complete this introductory course should be able to write and execute simple Python scripts and take further studies in Big Data and Text Analytics course.

# MSCA 37006. R Workshop. 000 Units.

This one-day workshop is an introduction to the essential concepts and techniques for the statistical computing language R. Topics covered include the R and RStudio environment, arithmetic, basic data structure, importing and exporting data, visualization, and basic statistics. No prior R or programming experience is required.

#### MSCA 37010. Programming for Analytics. 000 Units.

This course introduces the essential general programming concepts and techniques to a data analytics audience without prior programming experience. The goal is to equip the students with the necessary programming skill to be successful in the other courses in the MSCA program. Topics covered include: boolean, numbers, loops, function, debugging, R's specifcs (such as list, data frame, factor, apply, RMarkdown), Python's specifics (such as NumPy, Pandas, Jupyter notebook), version control, and docker. Examples are drawn from the problems and programming patterns often encountered in data analysis. It will use the programming language R in the first part of the course and Python in the second part. Terms Offered: Autumn Spring

# MSCA 37011. Deep Learning & Image Recognition. 000 Units.

This course in Deep Learning and Image Recognition will provide a practical, hands-on set of lectures on Deep Learning and Image Processing tools and techniques. It will emphasize practice over advanced mathematical theory, and students will spend a considerable amount of class time gaining experience on Neural Networks and their applications in Python and other open source libraries.

#### MSCA 37013. Ethics In Big Data Analytics. 000 Units.

Big data and analytics methodology are enormously beneficial to individuals, corporations, human services organizations, and government. Big data has dramatically improved how we address critically important global challenges, climate change and disease prevention. It has influenced our political life and generated enormous corporate profit. However, the use of huge datasets and data analytical methods raises an array of challenging ethical questions, including: How who owns big data? Are there implications to its sale or transfer? Are there limits to its commercial and public policy use? Is the right of an individual to privacy a thing of the past? Are algorithms inherently biased? Who or what is liable when machines make decisions? In "Ethics in Big Data Analytics" we first explore the impact of data analytics on society and corporations/ organizations to establish a framework for understanding ethical challenges. We then investigate ethical issues associated with data collection, storage, transfer/sale, analysis, and visualization. We study bias in algorithms, machine learning, and artificial intelligence. By the conclusion of this short course, students should be able (a) to explain why ethics is important to their work as data analysts/data scientists; (b) to express verbally and in writing the import of a specific ethical challenge a corporation or organization might confront; and (c) construct and present an argument related to how big data should or should not be used in this situation.

# MSCA 37014. Python for Analytics. 000 Units.

This course in python starts with introduction to the python programming language basic syntax and environment. It methodically builds up the learner's experience from the level of simple python statements and expressions to writing succinct, efficient and fast Python expressions and package the code in methods and classes. In general, the course is geared toward developing a data science's toolbox such as data importing, cleaning and preparation and covers a number of machine learning algorithms. However the course expands beyond these skills as it stresses upon the importance of some of Python's most unique and powerful features and serves as an introduction to object oriented programming and Python Classes.

#### MSCA 37015. Introduction to Ethics in Data Analytics. 000 Units.

This 3-hour course is an introduction to ethical issues surrounding data analytics, machine learning, and artificial intelligence. As a stand-alone offering, the course has no formal syllabus outlining weekly topics, reading, and assignments. The goal of the course is to offer students a workable, introductory understanding of current ethical challenges they will face in their careers as data science professionals. Ethical and policy-related concepts the course explore include the notion of privacy; data, discrimination, and disparate impact; and algorithmic bias. The course also presents a rudimentary overview of the current regulatory environment in the United States and European Union. Finally, the course introduce students to methods of ethical argument. Understanding these methods will help students communicate a point of view on the ethics of decisions that may be consequential to a business's success. This is a pass/fail course with no advanced reading or assignments. However, the instructor will provide students with a bibliography of materials at the conclusion of the course. TBD

#### MSCA 37016. Advanced Linear Algebra for Machine Learning. 000 Units.

An advanced linear algebra course focused on the theoretical foundations and applications of linear algebra for machine learning. Upon completion of this course, students will be provided a strong foundation of theoretical linear algebra and linear analysis topics essential for the development of core machine learning and data mining concepts. In addition, various real-life applications of linear algebra for data analytics will be demonstrated.

Instructor(s): Shaddy Abado, Lian Huan Ng, Arnab Bose Terms Offered: Autumn Spring

Prerequisite(s): Successful completion of Undergraduate level coursework in Linear Algebra. Successful completion of the Advanced Linear Algebra for Machine Learning pretest exam with a passing grade, or, successful completion of online Coursera course as outlined and recommended by MSCA program. MSCA & MSAP Students Only.

# MSCA 40100. Analytics Practicum. 000 Units.

Analytics Practicum is part of the co-operative educational agreement between MScA program and employers that provides off-campus work authorization for international students to pursue internships. The internships must meet the requirement that students archive at least five learning objectives of the course. The learning objectives are about students developing or sharpening their skills in applying analytical tools to solve real life problems. Terms Offered: Autumn Spring Summer Winter



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# Master of Science in Biomedical Informatics

The Master of Science in Biomedical Informatics (https://grahamschool.uchicago.edu/mscbmi/) (MScBMI) program offers students the opportunity to become experts in this interdisciplinary field that includes technology, healthcare and informatics. More specifically, biomedical informatics studies and pursues the effective uses of biomedical data, information, and knowledge for scientific inquiry, problem solving and decision making, motivated by efforts to improve human health. Students will learn key skills necessary for understanding, designing, and managing health information technology systems and projects. The curriculum includes core content in clinical and research informatics; ethical, legal, and social issues; data analysis; and leadership concepts specific to biomedical informatics. Students may also focus their elective courses on a specific field of study by selecting a program concentration: Bioinformatics, Clinical Informatics, Population Health Informatics or Healthcare Delivery Science. As a culminating experience, students put into practice the knowledge and skills they learned during their coursework through a Capstone project. The Capstone experience provides students the opportunity to develop and implement a biomedical informatics solution with an industry or University partner or within their workplace. The MScBMI is a program for working adults offered on weekday evenings and on Saturdays.

Program type: Masters degree program

- Courses (https://grahamschool.uchicago.edu/academic-programs/masters-degrees/biomedical-informatics/ curriculum/)
- Program structure, requirements, (https://grahamschool.uchicago.edu/academic-programs/masters-degrees/ biomedical-informatics/curriculum/) and application (https://grahamschool.uchicago.edu/academic-programs/mastersdegrees/biomedical-informatics/apply/)
- Location: Downtown Campus (https://grahamschool.uchicago.edu/maps/)
- Part-time or full-time / weekday evenings and Saturdays
- Time to completion: 1 to 5 years

Minimum G.P.A. for satisfactory academic progress: 3.0

# Admission criteria:

Applicants are required to hold a Bachelor's degree. To be considered for admission, applicants must submit:

- Completed online application
- \$75 application fee (non-refundable)
- Official transcript from each prior academic institution attended
- Candidate statement
- Current resume or CV
- Three letters of recommendation

Admitted students are required to pay a \$250 acceptance fee (non refundable).

Applicants who attended an international college or university may also need to:

- Satisfy English language proficiency requirement
- Provide course by course evaluation

MScBMI students must complete 1200 units, comprising of 12 courses, which must include

- 5 core courses
- 4 elective courses
- 3 capstone courses

#### Each of the following five core courses:

- MSBI 31100 Introduction to Biomedical Informatics
- MSBI 31200 Leadership and Management for Informaticians
- MSBI 31300 Concepts in Computer Programming
- MSBI 31500 Ethics and Policy Questions: Genomics, Health Care, and Big Data
- MSBI 31800 Introduction to Applied Data Analysis

Electives courses (select four from the following):

- MSBI 31600 Advanced Concepts in Computer Programming
- MSBI 32000 Intermediate Applied Data Analysis
- MSBI 32100 HIT Integration, Interoperability Standards
- MSBI 32200 Big and Little Data in Healthcare

- MSBI 32300 Decision Support Systems & Health Care
- MSBI 32400 Introduction to Bioinformatics
- MSBI 32500 Advanced Bioinformatics: Genome Analysis
- MSBI 32600 Geographic Information Systems and Health Information
- MSBI 32800 Healthcare Innovation and Entrepreneurship
- MSBI 32900 Evaluation Methods in Health Informatics
- MSBI 33100 Population Health Informatics
- MSBI 33200 Machine Learning for Biomedical Informatics
- MSBI 33400 Topics in Healthcare Delivery Science

Each of the following three Capstone courses:

- MSBI 39901 Capstone Project Proposal
- MSBI 39902 Capstone Project Implementation
- MSBI 39903 Capstone Project Writing and Presentation
- Note: Students enrolled in the Pritzker School of Medicine are permitted to apply to the MSBI program, but they
  must take time off from medical studies in order to complete the program. They may, with special permission, complete
  the MSBI 39903: Capstone Project Writing and Presentation course after returning to PSM and the course will be
  applied to MSBI degree requirements

# Master of Science in Biomedical Informatics Courses

# MSBI 30100. Introduction to Biostatistics Prerequisite. 000 Units.

This is an intensive course designed for students who have little to no background in statistics. It is also intended to be a refresher course for those who may have some statistical background and may or may not have recently been engaged in statistics related work or activities. The course will focus on understanding the concepts and will include a reasonable level of theory and applications and will strive for balance between these two. The objective of the course is to bring all students to the same level of statistical understanding and to ensure that they have the ability to apply these concepts using real data.

## MSBI 30200. Overview of Clinical Care Systems Prerequisite. 000 Units.

MScBMI students need to have a good understanding of how big clinical settings work. This workshop is for non-clinicians to gain understanding of basic workflow, systems, and terminology of hospitals.

# MSBI 31100. Introduction to Biomedical Informatics. 100 Units.

This course will cover the fundamentals of informatics as it applies to health care and research. Specific topics will include: radiology, imaging, and nursing informatics; using clinical data for research; overview of bioinformatics; coding in clinical care and billing; terminologies and ontology mapping; security and privacy including HIPAA and HITECH; mobile health and telemedicine; human-computer interaction; decision support; meaningful use; quality reporting; the Affordable Care Act; and clinical laboratory informatics.

## MSBI 31200. Leadership and Management for Informaticians. 100 Units.

This course is an intensive exploration of the conceptual and practical facets of leadership with the aim of preparing students to succeed in managerial roles. Over the ten-week quarter, we will draw on leading scholarship in the management sciences to help us define the nature of and limits to a learning organization, and how this understanding can be best applied to the biomedical informatics industry. The themes and topics include emotional intelligence, creative team management, technological disruption, organizational network analysis, negotiations, and the ethics of leadership. In the tradition of graduate education at the University of Chicago, we will approach these topics dialectically through critical readings and discussion. Each class session will also involve extensive team work on case study analysis and in-class simulations.

# MSBI 31300. Concepts in Computer Programming. 100 Units.

This course will provide an introductory and intermediate level overview of computer science and programming for students who are not working in technology-based professions. Students will learn concepts in computer programming and how programming language works, as well as theories behind information system design and management. Specific topics include: Python programming language; fundamental data structure; algorithm design; basic project management of development projects.

## MSBI 31500. Ethics and Policy Questions: Genomics, Health Care, and Big Data. 100 Units.

This course will provide students with an understanding of critical ethical, legal and social issues related to biomedical informatics, with an emphasis on policies in the US. Specific topics include: balancing privacy and discovery in the context of big data analysis; data stewardship; human genomic data; implications of future innovation for privacy and ethics; and guarding against misuse of data.

## MSBI 31600. Advanced Concepts in Computer Programming. 100 Units.

This course will introduce students to advanced concepts in computer programming through real-world "end-to-end" case studies. Additionally, this course will provide a comprehensive introduction to the domain of biomedical informatics from a computer programming perspective and will also provide implementation examples that are representative of problems that practitioners in the medical field have to solve. During the course, students will learn how biomedical informaticists access and process healthcare and medical data. Topics will include: common IT methods and tools, important numerical algorithms, commercial products as well as open-source tools and libraries.

## MSBI 31800. Introduction to Applied Data Analysis. 100 Units.

This course will introduce students to the concepts of research design, working with healthcare data, managing secondary data sets, and basic data analysis including descriptive statistics and measures of association. The course will outline methods for identifying appropriate datasets and using tools to analyze data, evaluate hypotheses, and interpret results. The goal is to help students learn how to describe, present, summarize, and organize data effectively in biomedicine.

# MSBI 32000. Intermediate Applied Data Analysis. 100 Units.

This course will enable students to focus on applying informatics methods to real-world scenarios. The course will be customized for students wanting to pursue research or clinical informatics projects. In the research group, we will use a casestudy based approach to identify appropriate datasets, use analytic tools to analyze data, evaluating hypotheses, and interpret results. In the clinical group, we will focus on the methods of diagnosing issues within current or proposed clinical systems, using informatics to address issues, and evaluate the results.

# MSBI 32100. HIT Integration, Interoperability Standards. 100 Units.

This course will provide students with an understanding of healthcare information technology (HIT) standards and interoperability. Lessons will include: a review of key standards such as IHE initiative, HL7, DICOM, CCOW, and others; the role of non-medical standards (HTTP, XML, etc.) in biomedical informatics; policy issues related to data exchange between institutions; use of service oriented architecture (SOA); enterprise business integration; and HIPAA polices and standards

# MSBI 32200. Big and Little Data in Healthcare. 100 Units.

This course will allow students to explore the concept of big data and the analytic and clinical challenges it presents. Lessons will cover the challenges in capturing, storing, searching, sharing and analyzing big data including sources such as electronic health records, clinical notes, medical imaging data, genetic data, pharmacy data, and administrative data (ICD-9 codes and billing data). Current advances in data science, information extraction and predictive modeling will also be examined.

# MSBI 32300. Decision Support Systems & Health Care. 100 Units.

This course will give students an overview of computer-assisted management information and decision systems used in health organizations. Topics will include: the analysis and design of databases for decision-making; data and information flow and reporting; security, privacy and confidentiality in using decision support systems; and best practices for change management in decision support systems.

## MSBI 32400. Introduction to Bioinformatics. 100 Units.

This course will provide students with an introduction to the tools and applications of bioinformatics. Examples will focus on genetic and genomic technologies including basic Illumina molecular biology; utilities for DNA sequencing; and knowledge extraction engines.

# MSBI 32500. Advanced Bioinformatics: Genome Analysis. 100 Units.

This course will follow on from the Introduction to Bioinformatics and will include advanced topics such as: Linux and high-performance computing; genomic data visualization; R programming in bioinformatics; and RNA sequencing data analysis.

# MSBI 32600. Geographic Information Systems and Health Information. 100 Units.

Increasingly, health care professionals are integrating data and data analysis techniques into the formulation of strategies, approaches, and frameworks for addressing complex health issues. Among the various data analysis tools being used in the health care and public policy fields Geographic Information Systems (GIS) are unique in their ability to tie health data to a geographic location. This makes a GIS much more than mapping software; by providing users with a suite of tools for manipulating, analyzing, and visualizing data in a spatial way a GIS can reveal relationships, trends and patterns that would not be apparent in other data analysis applications. GIS analysis methods can be used across disciplines to answer the kinds of complex multi-dimensional questions frequently found in the health care field. In this class, students will learn about fundamental GIS concepts while building the basic skills necessary to integrate a GIS into a decision-making process. Concepts presented in lecture will be put into practice through hands-on laboratory exercises utilizing QGIS, a cross-platform free and open-source desktop geographic information system. Additionally, the course will incorporate cases studies into laboratory exercises to ground GIS analysis techniques in real world learning scenarios.

#### MSBI 32800. Healthcare Innovation and Entrepreneurship. 100 Units.

This interdisciplinary course will provide the fundamental knowledge for healthcare innovation and entrepreneurship. The course will start with healthcare problem identification, innovative solution design, and eventually pitching the business concept to potential investors. Guest speakers from various schools will provide real-world perspectives and practical knowledge from different angles. Students will be divided into groups and work on either a quality improvement project or a business proposal throughout the 10-week course. There will be a final project presentation at the end of the course. Students are encouraged to later submit the project to annual UChicago app challenge or new venture challenge if applicable.

#### MSBI 32900. Evaluation Methods in Health Informatics. 100 Units.

Everyday thousands of lines of print are dedicated to the promise of Chat-bots, AI Doctors, Robot Surgeons, Image Recognition, Self-driving Cars, and other disruptive technologies. The science of biomedical informatics evaluates the interface of humans and information resources or technologies to ask the question: We can do it, but are we better for it? Each week we will discuss the spectrum of evidence generated on emerging technology through the lens of popular culture, news and articles, primary research, and fundamental research methodologies. Specifically, each week we will review an emerging disruptive technology or information resource in healthcare through the frame of the week's Friedman chapter, a student-selected primary research paper, and a popular news topic.

## MSBI 33100. Population Health Informatics. 100 Units.

As health and healthcare digitizes, the potential to better monitor, target and respond to the needs of populations increases. However, the exponential growth in health information technologies, and associated consumer products, has created an informatics skills gap for even veteran population health professionals. This course provides both a hands-on introduction and conceptual foundation for public health informatics. Students will work with open source surveillance data sets, apply standard terminologies and vocabularies, while furthering their understanding of the intersection of public health practice and informatics. This course will prove valuable for any student tasked with evaluating new data sets for monitoring the health of populations.

# MSBI 33200. Machine Learning for Biomedical Informatics. 100 Units.

This introductory course will present an overview of the basics concepts, techniques and algorithms used in Machine Learning. By taking this course students will be introduced to the basic ideas and intuition behind modern Machine Learning techniques. Students taking this course should be able to program in Python in order to complete the assignments required.

# MSBI 33400. Topics in Healthcare Delivery Science. 100 Units.

This course provides an overview of core healthcare delivery science subject matter including definitions of HDS components, program planning and evaluation, pre-implementation, implementation, post-implementation sustainability, and more. The objectives are for students to gain a deeper understanding of needs and risk assessment, intervention design and development, particularly using user-centered methods, and implementation of interventions into healthcare delivery systems, using cutting-edge conceptual frameworks and methods. Terms Offered: Spring

Prerequisite(s): "Limited to MScBMI students, or with permission. Contact mscbmi@uchicago.edu for permission".

# MSBI 38100. Independent Study. 100 Units.

TBD

# MSBI 39901. Capstone Project Proposal. 100 Units.

As a culminating experience, students will put into practice the knowledge and skills they learned during their coursework through a Capstone Project. Students will have the opportunity to develop and implement a biomedical informatics project with an industry or University partner or in their workplace. Students will complete this project over the course of three quarters in the program. The Capstone Project Proposal course will focus on planning the project and developing the proposal.

# MSBI 39902. Capstone Project Implementation. 100 Units.

As a culminating experience, students will put into practice the knowledge and skills they learned during their coursework through a Capstone Project. Students will have the opportunity to develop and implement a biomedical informatics project with an industry or University partner or in their workplace. Students will complete this project over the course of three quarters in the program. The Capstone Project Implementation course will focus on implementing the developed project.

# MSBI 39903. Capstone Project Writing and Presentation. 100 Units.

As a culminating experience, students will put into practice the knowledge and skills they learned during their coursework through a Capstone Project. Students will have the opportunity to develop and implement a biomedical informatics project with an industry or University partner or in their workplace. Students will complete this project over the course of three quarters in the program. The Capstone Project Writing and Presentation course will focus on creating the project write-up and presenting the capstone results to the MScBMI community.



# Master of Science in Threat Response Management

Master of Science in Threat and Response Management (MScTRM) students will develop the analytical, theoretical, and practical tools necessary to take on leadership roles across the evolving field of emergency management. Our interdisciplinary curriculum draws from fundamental subject areas such as crisis communications, national security, environmental security, cyber risk management, and other industry-relevant topic areas. As a culminating experience, students put into practice the knowledge and skills they learned during their coursework through a Capstone project. The Capstone experience provides students the opportunity to develop and implement an emergency management solution with an industry or University partner or within their workplace. The two-year executive format attracts a diverse cohort of students across sectors and years of experience to work closely with industry practitioners and subject matter experts to develop the skills necessary to build adaptive, prepared, and sustainable communities.

- Program type: Master's degree program
- Courses (https://grahamschool.uchicago.edu/academic-programs/masters-degrees/threat-response-management/ curriculum/)
- Program structure, requirements, (https://grahamschool.uchicago.edu/academic-programs/masters-degrees/threat-response-management/curriculum/) and application (https://grahamschool.uchicago.edu/academic-programs/masters-degrees/threat-response-management/apply/)
- Location: Downtown Campus (https://grahamschool.uchicago.edu/maps/)
- Part-time / executive format classes meet for three extended weekends each quarter: Autumn, Winter, Spring
   Time to completion: 2 years

Minimum G.P.A. for satisfactory academic progress: 3.0

# Admission Criteria:

Applicants are required to hold a Bachelor's degree. To be considered for admission, applicants must submit:

- Completed online application
- \$75 application fee (non-refundable)[CR1]
- Official transcript from each prior academic institution attended
- Candidate statement
- Current resume or CV
- Three letters of recommendation

Admitted students are required to pay a \$250 acceptance fee (non refundable).

# Curriculum requirements:

MScTRM students must complete 1200 units, comprising 12 courses, which must include:

- 6 core courses
- 3 elective courses
- 3 capstone courses[CR2]

Each of the following six core courses:

- MSTR 31101 Foundations of Emergency Management and Homeland Security
- MSTR 31102 Statistics, Data Visualization and Research Methods
- MSTR 31103 Emergency Management, Policy Making, Law and Ethics
- MSTR 31104 Complex Adaptive Systems for Emergency Preparedness and Homeland Security
- MSTR 31105 Communication Strategies for Crisis Management
- MSTR 31106 Crisis Leadership and Management

Three of the following elective courses:

- MSTR 32201 Public Health Surveillance and Investigation
- MSTR 32202 Modeling and Simulation for Policy Analysis and Design
- MSTR 32203 Critical Infrastructure Protection and Key Resources
- MSTR 32205 Radiation, Chemical, and Biohazard Countermeasures Essentials for Community Survival
- MSTR 32206 Cyber Awareness
- MSTR 32207 Technology Strategy and Information Systems
- MSTR 32209 Infectious Diseases, Pandemics and Emergency Management
- MSTR 32210 Financial and Resource Planning for Risk and Crisis Managers

- MSTR 32211 Business Continuity, Contingency, Sustainability and Resilience
- MSTR 32212 Psychological, Social, and Behavioral Contexts of Emergency and Hazard Response

Each of the following three Capstone courses:

- MSTR 33301 Capstone Project: Proposal
- MSTR 33302 Capstone Project: Research and implementation
- MSTR 33303 Capstone Project: Writing and Presentation

# M.S. in Threat and Response Management Courses

# MSTR 30000. Introduction to Statistical Concepts. 000 Units.

This online course uses emergency management datasets to re-introduce students to basic statistical concepts and software. Most students in the Master of Science in Threat and Response Management program are required to participate in this workshop. This workshop is offered online, once a week for five weeks prior to the start of the Autumn quarter. Students will be notified at the time of admission if participation in this workshop is mandatory.

# MSTR 31101. Foundations of Emergency Management and Homeland Security. 100 Units.

This course familiarizes students with the fundamentals of emergency management and homeland security. The evolution of emergency management and homeland security is discussed along with a review of significant events that have shaped and influenced practices and doctrine. It identifies key players involved at the national, state, and local levels and their roles and responsibilities in prevention, protection, mitigation, preparation, response, and recovery to a naturally occurring or human-caused hazard. Students learn appropriate federal agency mandates, including those of the Department of Homeland Security, Federal Emergency Management Agency, and the Department of Health and Human Services. The content includes a discussion of risks, threats, vulnerabilities, and consequences as well as directives and guidelines included in the National Incident Management System, National Planning Frameworks, National Infrastructure Protection Plan, Homeland Security Presidential Directives, presidential Policy Directives, the National Fire Protection Association 1600 standard, the Emergency Management Accreditation Program emergency management standard, and the National Preparedness System. Topics also include the weapons, models for dispersion, and public health consequences and counteractions that might be employed in terrorist attacks. The course considers the detection and response to such acts and potential modes of treatment, amelioration, and response. Students also participate in a table-top exercise simulating an actual disaster event.

# MSTR 31102. Statistics, Data Visualization and Research Methods. 100 Units.

This course will cover basic summary and inferential statistics and data visualization. Emphasis will be placed on building a foundation for understanding, interpreting, and presenting statistical data for research, management, and epidemiology applications.

Instructor(s): Julia Crowley Terms Offered: Autumn

# MSTR 31103. Emergency Management, Policy Making, Law and Ethics. 100 Units.

This course will focus on converting the tools of policy analysis into action and social change, addressing the regulatory, legal, and ethical issues affecting hazard and response management, privacy, and quarantine. Refusal of medical care will be put in the context of patient rights and public policy. Rules of evidence and practices of forensic management by local, state, and federal agencies involved in the handling of samples from impacted sites are equally important, as are the legal, regulatory, and ethical perspectives on exposed individuals and their families. Students will apply analytic tools to these and other related policy problems. Issues will be placed in the context of real-world cases in which major policy changes have succeeded or failed in the political process. Examples and case studies from past governmental responses to hazardous events will be used extensively.

Instructor(s): Edward Tanzman L. Paul Lewis Terms Offered: Winter

## MSTR 31104. Complex Adaptive Systems for Emergency Preparedness and Homeland Security. 100 Units.

A systems thinking perspective that crosses traditional disciplinary boundaries is needed to understand the complex adaptive systems of concern for threat management, emergency preparedness and response, homeland security and societal resiliency. Systems science provides the tools for developing critical thinking skills that can be used to analyze such systems. Students will become systems thinkers using various qualitative techniques of complex systems analysis, including network analysis, causal modeling, system dynamics, risk and resiliency analysis, and behavioral modeling. The course examines how these techniques are being applied to inform preparedness and planning decisions, in infrastructure, terrorism, supply chains, public health and other areas. Students will have the opportunity to apply these techniques in class projects and assignments. They also will interact with scientists and analysts from Argonne National Laboratory who are applying these techniques in their current work.

Instructor(s): Charles Macal Terms Offered: Winter

# MSTR 31105. Communication Strategies for Crisis Management. 100 Units.

This course focuses on evidence-based communication strategies, tools and tactics in crisis situations. Theoretical approaches will be tested against actual practice in risk communication (pre-crisis), crisis communication, and post-crisis communication with a range of audiences, including general publics, regulators and legislators. Role play in devised scenarios give students the opportunity to develop communication strategies in a real-time, real-world environment. Communication tactics include creating written materials, such as news releases, brochures, informational videos and congressional testimony, as well as dealing with hostile audiences in face-to-face situations.

## MSTR 31106. Crisis Leadership and Management. 100 Units.

This course is organized into two main sections: (1) leadership and (2) team and group effectiveness. The first part of the course investigates human thought and judgement and how these thoughts and judgements can impede or improve your ability to lead yourself and others. Topics in this section include models for effective leadership, leadership style, leadership under stress and pressure, effective listening and questioning, evaluating information and evaluating others. The second section of this course examines what it means to effectively team with others. Topics include models of effective leadership and effective team/group dynamics and team leadership and membership. Students will learn how to be good members and effective leaders of teams, committees, and other decision-making and problem-solving groups. For both sections of this course, the primary means of instruction will be interactive exercises in which students perform tasks in groups to practice the skills of membership and leadership. Students will also develop strategies to build partnerships and establish networks to ensure effective response when a disaster strikes.

# MSTR 31110. TRM Introductions: An Evolving Threat Landscape. 100 Units.

To be added. Terms Offered: Autumn

# MSTR 31111. Intelligence Driven Decision Making. 100 Units.

To be added. Terms Offered: Autumn

# MSTR 32201. Public Health Surveillance and Investigation. 100 Units.

This course is designed to provide information crucial to monitoring the health of the public and responding to outbreaks. Students will learn about public health surveillance systems that collect, analyze, and disseminate data to prevent and control disease, and understand how these systems are important to disease outbreak recognition. Students will gain familiarity with decision making in developing surveillance systems including identifying public health problems and priorities, developing case definitions, and systematically tracking public health problems for which recognition leads to public health action. Instructor(s): Mark Dworkin

# MSTR 32202. Modeling and Simulation for Policy Analysis and Design. 100 Units.

Why do so many public and private organizations suffer from recurrent problems and crises? Why do some organizations thrive while others fail? Why is it difficult to identify the possible consequences of the implementation of new policies? Why do so many policies fail? The human experience is characterized by multiple sets of interconnected decision processes that create high levels of complexity and generate dynamics that often are counterintuitive and difficult to manage. Such difficulty dramatically increases under conditions of uncertainty, stress, and high consequence. In complex systems, designing and regulating decision processes to improve performance is difficult because of the pervasiveness of time delays and nonlinear responses that cause system behavior. This course introduces basic principles underlying dynamic feedback systems and presents a set of concepts and tools for thinking through complex system-wide problems that challenge the ability to design, operate, and manage complexity in organizational, and multi organizational, settings and programs. In this course, students will learn to characterize and understand complex interactions using dynamic modeling and simulation and will learn to diagnose and solve complex system-level problems by applying systems science approaches. Students will learn the basic principles underlying representative complex systems behavior (e.g., dynamic equilibrium, exponential growth and decay, sigmoid growth). The principles will be explored by building and analyzing computer models of complex systems with examples drawn from economic, urban, security, social, and epidemiological systems. The course is intended both for those who wish to understand policy studies conducted by others employing computer simulation, and for those who want to become simulation modelers. It provides the conceptual and technical knowledge necessary to conceptualize complex dynamic policy problems, formulate appropriate simulation models, and use models for policy analysis.

# MSTR 32203. Critical Infrastructure Protection and Key Resources. 100 Units.

One of our biggest and most pressing challenges in today's homeland security environment is the protection of our nation's critical infrastructure and key assets. Critical Infrastructure Protection (CIP) is essential to our Nation's security, resilience and economic vitality. This course examines the various sectors that make up critical infrastructure (water, energy, communications, financial services, information technology, etc.), their associated dependencies and interdependencies, and the strategies employed at the local, state and federals levels of government and the private sector to assess vulnerability, minimize risk and confront natural and intentional threats to these vital sectors. Incorporating critical infrastructure considerations into the planning for catastrophic events will also be examined along with the preparedness challenges and policy implications posed by our nation's aging infrastructure (bridges, roads, dams, etc.).

# MSTR 32204. Data Analytics for Emergency Response 1. 100 Units.

Limited time and resources mean that emergency management specialists are always prioritizing and planning, whether they are doing so consciously or not. Part of how this prioritization takes place is in the planning that results from lessons learned, the predictive analytics used during an emergency, and the investments in preparedness to mitigate forecasted hazards and risks. A 21st century emergency management plan is one that makes maximum use of the best information available and delivers it to the key stakeholders on the ground. This course will teach students better manage and prepare for emergencies through effective information management. The course is organized around an analytic model of teaching students to House, Extract, Analyze (HEA) information for (1) retrospective analysis, (2) predictive analytics, and (3) preparedness. Data Analytics for Emergency Response 1 will cover natural disasters including hurricanes, public health emergencies and earthquakes.

Instructor(s): John Stevenson Terms Offered: Autumn

## MSTR 32205. Radiation, Chemical, and Biohazard Countermeasures - Essentials for Community Survival. 100 Units.

This course is designed to cover the basic principles of radiation biology as it pertains to radiation interactions with biological systems, the short and long term consequences, regulatory issues and the underlying science, nuclear and radiological accidents and health effects, radiological terrorism, and countermeasures. Radiological hazards will be defined in the contact of radiological dispersal devices (dirty bombs) and other nuclear devices. Relative radiation risks and consequences as a function of exposure to photons (X- and gamma-rays), beta particles, alpha particles, and neutrons will be addressed. Concepts relating to radiation detection systems, biological exposure and the inverse square law, LD-50 for bone marrow and GI toxicity, and long-term effects such as mutagenesis, carcinogenesis, and birth defects will be covered along with information on currently available medical and chemical interventions to reduce these risks such as the use of radiation protector, mitigators, and chelation therapy drugs.

Instructor(s): Richard Miller Terms Offered: Autumn

# MSTR 32206. Cyber Awareness. 100 Units.

This course aims at highlighting core capabilities, tools, and techniques within cybersecurity by understanding fundamental cybersecurity concepts and their applications. Freely available tools will allow students to inspect and analyze various aspects of cybersecurity from a myriad of viewpoints. Emphasis of cybersecurity concepts, within both attack and defensive methodologies, will aid in understanding why attackers can successfully exploit vulnerabilities and how security professionals can thwart these attacks. Weekly coursework will include analyzing and identifying threats, vulnerabilities, and consequences within current events and proposing possible mitigations. Students should have a fundamental grasp of virtual machine use and networking prior to taking this course. Instructors may provide background information based on a student's lack of familiarity with fundamental concepts.

Instructor(s): Nate Evans Terms Offered: Autumn

# MSTR 32207. Technology Strategy and Information Systems. 100 Units.

Maintaining an appropriate focus on science and technology solutions as they relate to incident management is essential to the ability to prepare for, prevent, respond to, and recover from an emergency. Systems must be compatible and integrated for optimal response. In this course, inter-operability, common communications, data standards, digital data formats, warning systems, geographic information technologies, and equipment and design standards will be covered. Strategic planning for intelligence sharing and the protection of critical infrastructure will be the focal points. The development of testing mechanisms to evaluate these protocols and guidelines will be emphasized.

Instructor(s): Don Zoufal Terms Offered: Winter

# MSTR 32208. Analytics of Emergency Response II. 100 Units.

Limited time and resources mean that emergency management specialists are always prioritizing and planning, whether they are doing so consciously or not. Part of how this prioritization takes place is in the planning that results from lessons learned, the predictive analytics used during an emergency, and the investments in preparedness to mitigate forecasted hazards and risks. A 21st century emergency management plan is one that makes maximum use of the best information available and delivers it to the key stakeholders on the ground. This course will teach students better manage and prepare for emergencies through effective information management. The course is organized around an analytic model of teaching students to House. Extract, Analyze (HEA) information for (1) retrospective analysis, (2) predictive analytics, and (3) preparedness. Data Analytics for Emergency Response 2 will cover man-made disasters including terrorist, nuclear, and cyber attacks. Instructor(s): John Stevenson Terms Offered: TBD

#### MSTR 32209. Infectious Diseases, Pandemics and Emergency Management. 100 Units.

This course will focus on the epidemiologic, environmental, geopolitical, and emergency management principles unique to infectious disease emergency preparedness and response, including pandemic preparedness. The course will not focus on the clinical management of individual cases. We will consider threat-specific (e.g., microorganism, vector) and human-specific (e.g., immunologic susceptibility, fear) factors, surveillance, investigation, containment, and prevention. Both natural and manufactured threats will be examined. Infectious diseases as complications of other types of emergencies will be studied. Students will complete and present a project relevant to their professional backgrounds. Instructor(s): Rebecca Wurtz Terms Offered: Spring

#### MSTR 32210. Financial and Resource Planning for Risk and Crisis Managers. 100 Units.

Large-scale events, frequently involving multiple disciplines and jurisdictions, require the development and ongoing management of financial and other practical resources. Following a format which centers on the 1) prevention/mitigation/ preparedness, 2) response, and 3) recovery phases of the disaster management cycle, this course will expose students to the tools required for financial forecasting, cost analysis, procurement, and monitoring of expenses. The course will also cover day-to-day resource management versus methods for managing resources during an operational response. A focus will be placed on budgeting, grant management and professional writing skills for the disaster management practitioner. Instructor(s): Jill Ramaker Terms Offered: Winter

## MSTR 32211. Business Continuity, Contingency, Sustainability and Resilience. 100 Units.

This course teaches students key principles of Business Continuity, Contingency, Resilience and Sustainability(CCRS) and how to develop CCRS strategies using battle-tested frameworks and data-driven methodologies. The course will review noteworthy events of the past that created significant challenges for key industry verticals, participants, and service providers. The instructor will bring use-cases from both the public and private sector and will create discussion forums about what happened, what worked, what did not work according to plan, lessons learned and expectations for preparedness (operational, tactical, and strategic). Naturally, there are many factors that every organization must consider in planning for localized and systemic crises and threats, this course will consider both general and specialized issues associated with various verticals of critical infrastructure and assets, such as: organizations, people, operations, systems, and delivery of services and products. In particular, reviewing systemic implications of highly complex interconnected and interdependent systems under crisis. The goal is to use the historical experiences as well as forward looking analysis and assumptions as a backdrop for identifying the key factors of a Continuity, Contingency, Resilience and Sustainability enabled enterprise. The course will enable the students to develop and/or evaluate a CCRS plan and corresponding tools for industry-wide and firm-specific adoption.

Instructor(s): Medy Agami Terms Offered: Spring

# MSTR 32212. Psychological, Social, and Behavioral Contexts of Emergency and Hazard Response. 100 Units.

This course focuses on the psychological, social, and behavioral consequences of terrorist threats, natural disasters, and catastrophes, as well as preparation for and responses to these occurrences. The course will focus on multiple types of threats including explosives, infectious disease, and biological, chemical, and radiological events. Other topics to be addressed include theory, vulnerable populations, behavioral interventions, social responses, systems of care, risk communication, and research.

Instructor(s): Stevan Weine Terms Offered: Autumn

# MSTR 32220. Introduction to Cyber Risk. 100 Units.

To be added. Terms Offered: Autumn

#### MSTR 32221. Energy, Policy & Critical Infrastructure. 100 Units.

To be added. Terms Offered: Autumn

## MSTR 32222. Global Threats & Policy. 100 Units.

To be added. Terms Offered: Autumn

#### MSTR 33033. Capstone Project: Writing and Presentation. 100 Units.

Students will write and present their final capstone project reports. They will learn to communicate research professionally and effectively, both in writing and to an audience Instructor(s): Millie Rev Terms Offered: Spring

# MSTR 33301. Capstone Project: Proposal. 100 Units.

In this course, students will develop and present a research proposal for their capstone research. Students will develop their research topic and question, literature review, introduction, and methodology, while also developing research writing and presentation skills.

## MSTR 33302. Capstone Project: Research and implementation. 100 Units.

This course supports students throughout the research and implementation stage of their capstone projects, including IRB compliance, and data collection and analysis. Students will also continue to develop research, writing, and presentation skills.

Instructor(s): Millie Rey Terms Offered: Winter

#### MSTR 33303. Capstone Project: Writing and Presentation. 100 Units.

In this course, students will write and present their final capstone project reports. They will learn to communicate research professionally and effectively, both in writing and to an audience.

Instructor(s): Mildred Rey Terms Offered: Spring



# Graduate Student at Large and Returning Scholar Programs

Graduate Students-at-Large enables eligible students to take undergraduate and graduate courses, at the College, Graduate Divisions and Professional Schools (except Pritzker Medical School) for grades and credit. Students receive a transcript from the University of Chicago, which creates a transferable record of study. GSAL students take courses alongside College and Graduate Students at the University of Chicago and experience the unique University of Chicago academic culture.

Graduate Students-at-Large Business enables eligible students to take courses in the Chicago Booth School of Business. Students take Booth courses for grades and credit. It is a unique opportunity to experience Chicago Booth faculty and students, build your network, create a transferable record of study, enhance your application to Booth or other MBA programs. Students are encouraged to attend Chicago Booth admissions events and to contact Booth admissions staff for information about applying to the Evening, Weekend and Full-Time MBA programs.

Returning Scholars are students who audit classes for no credit.

Returning Scholars Business are students who audit classes at the Chicago Booth School of Business for no credit.

- Program type: graduate-level non-degree programs
- Courses (https://grahamschool.uchicago.edu/credit/graduate-student-at-large/business/registration/)
- Program structure, requirements, and application (https://grahamschool.uchicago.edu/credit/graduate-student-atlarge/business/)
- Location: Hyde Park Campus (https://visit.uchicago.edu/) and Gleacher Center (https:// grahamschool.uchicago.edu/maps/)
- · Courses taken: part-time, full-time / weekday evenings and Saturday mornings



# Non-Credit Programs

# **Business Analytics**

The online Business Analytics certificate is designed to improve evidence-based decision-making skills of business professionals. The certificate also equips these professionals with the ability to manage analytics teams and act as translators between business and technical people.

Admission Criteria:

- Completed online application
- \$40 application fee (non-refundable)
- Personal Statement
- Current resume or CV

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

Curriculum requirements:

4 Required Courses

NOTE: The Business Analytics certificate is currently undergoing curricular revisions and requirements may change before or during the 2018/2019 academic year. Updated curricular information can always be found here: https://grahamschool.uchicago.edu/academic-programs/professional-development/business-analytics/curriculum (https://grahamschool.uchicago.edu/academic-programs/professional-development/business-analytics/curriculum/#bacourses)

Courses required for completion of the certificate: (requirements for 2018-19 admits):

- BUAN18100: Exploring Data to Evaluate Business Practices: Databases and Reporting
- BUAN18200: Exploring Data to Evaluate Business Practices: Exploratory Data Analysis and Visualization
- BUAN19100: Data Analysis for Evidence Based Decision Making
- BUAN19200: Data Mining for Evidence Based Decision Making

# Clinical Trials Management and Regulatory Compliance

This comprehensive certificate program provides rigorous clinical research training across the entire clinical trials process, from the perspective of the clinical study site as well as that of the sponsor or monitor. The broad curriculum covers ICH good clinical practice guidelines, regulatory requirements and compliance, detecting fraud and misconduct, and statistics for clinical research. Students will build the skills and knowledge to initiate clinical research studies, apply monitoring methods, and write documents and reports, while understanding and abiding by FDA regulations and International Conference on Harmonization (ICH) guidelines.

Admission criteria:

- Completed online application
- \$40 application fee (non-refundable)
- Personal Statement
- Current resume or CV

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

Curriculum requirements:

6 courses in total: 5 required courses and 1 elective

Updated curricular information can be found here: https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/clinical-trials/curriculum (https://grahamschool.uchicago.edu/academic-programs/professional-development/ clinical-trials/curriculum/)

Courses required for completion of the degree: (requirements for 2018-19 admits)

Required courses (5):

- CLIN11100: Good Clinical Practices
- CLIN11200: The Drug Development Process
- CLIN11300: Statistical Concepts for Clinical Research

- CLIN11400: Fundamentals of Site Management
- CLIN11500: Fundamentals of Clinical Monitoring

Elective courses (select 1):

- CLIN10100: Introduction to Clinical Research: Conception to Protocol Development
- CLIN21100: Fraud and Misconduct
- CLIN21200: Project Management and Leadership in the Healthcare Industry

# Digital Marketing and Integrated Communications

The Digital Marketing and Integrated Communications certificate is designed for professionals who want to launch their marketing career or refresh it with new skills. The courses in the certificate provide essential training within a range of marketing disciplines including digital marketing, social media, advertising, marketing planning, brand development, market research, and public relations. Professionals in the program engage in thinking and practices rooted in marketing results.

Criteria for admission into program:

- Completed online application
- \$40 application fee (non-refundable)
- Personal Statement
- Current resume or CV

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

# Curriculum requirements:

Updated curricular information can be found here: https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/digital-marketing/curriculum (https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/digital-marketing/curriculum/)

Courses required for completion of the degree: (requirements for 2018-19 admits)

Required Courses (4):

- IMKT11100: Successful Marketing: Basics to New Directions
- IMKT11200: Branding for Competitive Advantage
- IMKT11300: Managing Integrated Marketing Communications
- IMKT11400: Marketing Experience, Analytics, and Optimization

Elective courses (2):

- IMKT21100: Digital Shopper Marketing
- IMKT21200: Consumer Research Design and Analysis
- IMKT21400: Search Engine Marketing
- IMKT21500: Web Analytics for Marketing Professionals
- IMKT21600: Public Relations
- IMKT21700: Designing a Social Media Strategy
- IMKT21800: Consumer Behavior
- IMKT21900: Content Marketing

## Editing

The Editing certificate program offers a focused sequence of courses designed to prepare individuals to enter the publishing industry and to help current editing professionals build skills and knowledge for career advancement. In addition to core courses focused on manuscript editing, students have the opportunity to learn about the emerging technologies and marketing tools that dramatically affect publishing professionals today.

Criteria for admission into program:

- Completed online application
- \$40 application fee (non-refundable)
- Personal Statement
- Current resume or CV

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

# Curriculum requirements:

5 courses in total: 4 required courses and 1 elective

Updated curricular information can be found here: https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/editing/curriculum (https://grahamschool.uchicago.edu/academic-programs/professional-development/editing/ curriculum/)

Courses required for completion of the degree: (requirements for 2018-19 admits)

Required courses (4):

- EDIT11100: Basic Manuscript Editing
- EDIT11200: Intermediate Manuscript Editing
- EDIT11300: Advanced Manuscript Editing
- EDIT11400: Editing Electronically

Elective courses (1):

- EDIT11100: Basic Manuscript Editing
- EDIT11200: Intermediate Manuscript Editing
- EDIT11300: Advanced Manuscript Editing
- EDIT11400: Editing Electronically

# Financial Decision Making

The Financial Decision Making Certificate is designed for professionals who want to launch a career in finance, refocus on business management basics, or prepare for a top-ranked MBA program. The program offers foundational skill development in business accounting and finance, and the rigorous coursework builds core knowledge and understanding to enhance job effectiveness and for career advancement.

Criteria for admission into program:

- Completed online application
- \$40 application fee (non-refundable)
- Personal Statement
- Current resume or CV

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

Curriculum requirements:

5 courses in total: 3 required courses and 2 electives

Updated curricular information can be found here: https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/financial-decision-making/curriculum (https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/financial-decision-making/curriculum/)

Courses required for completion of the degree: (requirements for 2018-19 admits)

Required courses (3):

- FIND11100: Financial Accounting
- FIND11200: Corporate Finance
- FIND21100: Principles of Economics

Electives (select 2):

- FIND21200: Managerial Analysis: Tools for Better Decisions
- FIND21300: Securities and Portfolios
- FIND21500: Behavioral Economics

# Medical Writing and Editing

The Medical Writing and Editing certificate program is designed to teach students the fundamentals and best practices of crisp, clear, and sophisticated medical writing and editing. The comprehensive curriculum ensures students are trained in the industry standard *AMA Manual of Style*. Coursework includes accessing medical research, using appropriate terminology, and designing and presenting data visualizations.

Application criteria:

- Completed online application
- \$40 application fee (non-refundable)
- Personal Statement
- Current resume or CV

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

Curriculum requirements:

6 courses in total: 5 required courses and 1 elective

Updated curricular information can be found here: https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/medical-writing-and-editing/curriculum (https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/medical-writing-and-editing/curriculum/)

Courses required for completion of the degree: (requirements for 2018-19 admits)

Required courses (5):

- MEWE30100: Medical Copyediting
- MEWE30200: Fundamentals of Substantive Editing and Publication Ethics
- MEWE30300: Fundamentals of Writing and Research
- MEWE30400: Preparing Tables, Graphs, and Figures
- MEWE30500: Understanding and Reporting Biostatistics

Electives (select 1):

- MEWE40100: MEDLINE and Beyond: Medical Research Databases
- MEWE40300: Freelancing for Medical Writers and Editors
- MEWE40400: Regulatory Writing

# Essentials of Project Management

This program covers the essential managerial and technical aspects of modern project management. Additionally, it gives professionals direct experience using appropriate tools and techniques to successfully execute a project. By the end of this program, students will have a mastery of the basic theory and practice of project management. Included will be exposure to many of the 'soft skills' inherent in successful project execution, such as communication, interpersonal relationships, and problem-solving.

## Admission criteria:

The Essentials of Project Management program does not require admission. Interested students may directly register for classes.

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

## Curriculum requirements:

1 or 2 courses in total: either 1 online course or two in-person courses

Updated curricular information can be found here: https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/project-management/essentials/curriculum (https://grahamschool.uchicago.edu/academic-programs/ professional-development/project-management/essentials/curriculum/)

Courses required for completion of the degree: (requirements for 2018-19 admits)

Required courses:

PMGT17101: Essentials of Project Management (online)

OR:

- PMGT11101: Idea to Completion (in-person)
- PMGT11102: Making Projects Work (in-person)

# Project Management Strategy

The Project Management Strategy certificate is designed for professionals who want to develop their understanding of the strategic, leadership, human resources, and operational aspects of project management. Completion of the Project Management Strategy certificate will provide the project manager or team member with the knowledge and insight to

successfully meet and embrace the challenges inherent in successful project completion. This is an intermediate program for people who have completed the Essentials of Project Management certificate or who have real-time experience working on or leading a project team.

Admission criteria:

- Completed online application
- \$40 application fee (non-refundable)
- Personal Statement
- Current resume or CV

Non-credit certificate programs do not provide a GPA. Certificate courses are graded on an A-F and P/F scale. Students must earn at minimum a passing grade (P) or (C-) to pass a course. Students who earn a D+, D, D-, or F in a course will not pass.

Curriculum requirements:

5 courses in total: 3 required courses and 2 electives

NOTE: The Project Management Strategy certificate is currently undergoing curricular revisions and requirements may change before or during the 2018/2019 academic year.

Updated curricular information can always be found here: https://grahamschool.uchicago.edu/academic-programs/ professional-development/project-management/strategy/curriculum (https://grahamschool.uchicago.edu/academic-programs/ professional-development/project-management/strategy/curriculum/)

NOTE: Students with project management experience can bypass 'Idea to Completion' and then only need to complete 4 courses in total.

Courses required for completion of the degree: (requirements for 2018-19 admits)

REQUIRED:

- PMGT17101: Essentials of Project Management (online)
- PMGT11101: Idea to Completion (in-person)
- PMGT11102: Making Projects Work (in-person)

## AND choice of:

- PMGT21102: Assessment and Recovery of Troubled Projects OR
- PMGT21105: Managing Project Resources: Budgets, Estimates, and Performance

Elective courses:

- PMGT11201: Introduction to Agile for Project Managers
- PMGT11202: Managing the Radical Shift to Agile
- PMGT21102: Assessment and Recovery of Troubled Projects
- PMGT21105: Managing Project Resources: Budgets, Estimates, and Performance
- PMGT21106: Negotiation and Dispute Resolution for Project Managers
- PMGT31106: Design Thinking for Project Managers

## Advanced Project Management

The purpose of the Advanced Project Management certificate program is to provide the experienced project practitioner with a forum for examining leading-edge concepts, best practices, and approaches to issues that will directly affect job performance and organizational success. Our Advanced Project Management courses are designed for participants with several years of project management experience. This certificate offers an opportunity for very experienced project managers to interact with their peers to learn and work with professionals who have similar levels of responsibility.

This program lets you take advantage of your experience while earning continuing education credits (PDUs) in a meaningful way. Benefits include:

- Interaction with peers in advanced courses sharing similar levels of experiences.
- In-depth study of topics directly pertinent to organizational success.
- All participants earn PDUs from the Project Management Institute.
- Meet continuing educational requirements with courses that will hold your interest while expanding your knowledge base.
- Freedom to choose the courses that are the most important to you professionally.

 Students must have 3-5 years of progressive project management experience, and may take courses without enrolling in the program.

# Visual Arts

The Visual Arts Certificate Program (https://grahamschool.uchicago.edu/academic-programs/professionaldevelopment/visual-arts/) was created to help emerging and mid-career artists access practical information and resources that allow them to enhance the success of their current artists practice. A partnership between the Hyde Park Art Center and the University of Chicago Graham School, the program brings together studio learning and professional development across five courses. We aim to foster a sense of artistic community, and to offer artists a positive space to engage in critical dialogue with others working in the arts.

Program type: certificate

 Courses and course schedules (https://grahamschool.uchicago.edu/ courses/?sku=&field\_quarter\_value=All&field\_year\_value[value] [year]=&field\_program\_tags\_tid=41&field\_course\_tags\_tid=All&field\_professional\_development\_t\_tid=All&field\_personal\_enrich

- Program structure, location of courses, requirements, (https://grahamschool.uchicago.edu/academic-programs/ professional-development/visual-arts/curriculum/) and application (https://grahamschool.uchicago.edu/academicprograms/professional-development/visual-arts/apply/)
- Part-time
- Time to completion: up to 3 years



# Basic Program for Liberal Arts

# Noncredit Programs

# Basic Program of Liberal Education for Adults

The Basic Program of Liberal Education for Adults (https://grahamschool.uchicago.edu/academic-programs/liberalarts/basic-program/) offers a rigorous, noncredit liberal arts curriculum that draws on the strong Socratic tradition at the University of Chicago and covers the foundations of modern Western political and social thought. Read, explore, and engage with these important texts in a dedicated community of learners, led by experienced instructors. There are no tests, papers, or grades; you will instead discover, disagree, and discuss these works just as students in the College at the University of Chicago do, with the benefit of additional years of insight and experience to add to the conversation.

Participants earn a certificate upon completion of the entire four-year curriculum (12 quarters), as well as some of the privileges of University of Chicago alumni.

- Program type: certificate
- Courses (https://grahamschool.uchicago.edu/courses/?sku=&field\_quarter\_value=All&field\_year\_value[value]
   [year]=&field\_program\_tags\_tid=7&field\_course\_tags\_tid=All&field\_professional\_development\_t\_tid=All&field\_personal\_enrichm
- Program structure, requirements, (https://grahamschool.uchicago.edu/academic-programs/liberal-arts/basicprogram/curriculum/) and application (https://grahamschool.uchicago.edu/academic-programs/liberal-arts/basicprogram/register/)
- Location: Gleacher Center (https://grahamschool.uchicago.edu/maps/) and Hyde Park (https://visit.uchicago.edu/)
- · Part-time / weekday mornings and evenings at Gleacher; Saturday mornings in Hyde Park
- Time to completion: 4 years

Courses:

- Basic Program Year 1: Autumn, Winter, Spring quarters
- Basic Program Year 2: Autumn, Winter, Spring quarters
- Basic Program Year 3: Autumn, Winter, Spring quarters
- Basic Program Year 4: Autumn, Winter, Spring quarters

https://grahamschool.uchicago.edu/academic-programs/liberal-arts/basic-program



# The University of Chicago Booth School of Business

Founded in 1898, the University of Chicago Booth School of Business (http://www.chicagobooth.edu) is the secondoldest business school in the United States and one of the most distinguished. The school's programs consistently rank highly in surveys, and the school has a strong reputation for innovation in both research and teaching. For example, Chicago Booth faculty (http://www.chicagobooth.edu/faculty/directory/) have made significant contributions in the areas of finance, the economics of regulation, and decision making. For more than a century, Chicago Booth has been known as an innovator in business education and a creator of ideas.

In autumn 2004 Chicago Booth opened its Hyde Park Center. Named the Charles M. Harper Center in 2007, this facility brought together all of Chicago Booth's previously existing Hyde Park campus buildings into one 415,000-squarefoot space. Located at 5807 South Woodlawn Avenue, Harper Center was designed around how teachers want to teach and how students want to learn. With the opening of Harper Center, Chicago Booth could lay claim to the best business school facilities in the world. Chicago Booth is the only business school with permanent campuses on three continents. Built in 1994, Gleacher Center, off Michigan Avenue in downtown Chicago, provides state-of-the-art executive education and conference facilities and is home to the school's part-time MBA programs. In London, Woolgate Exchange is the home of the school's Executive MBA Program Europe. In Hong Kong, the Cyberport, located in a bustling metropolis with excellent communications and transportation, is the location for the Executive MBA Program Asia.

The University of Chicago Booth School of Business offers six programs of study leading to a degree: four leading to an MBA (the Full-Time MBA Program, the Evening MBA Program, the Weekend MBA Program, and the Executive MBA Program), one leading to an IMBA (the International MBA Program), and the PhD Program.

## The Full-time MBA Program

The MBA curriculum is designed to prepare students for significant careers in management. It encompasses both the basic disciplines that underlie management and the operational areas specific to business. The courses are designed to provide understanding of the components of managerial decision making while furnishing perspective on the role of business as an economic, political, and social institution.

The MBA experience is not restricted to the classroom at Chicago Booth. Although Booth is not a case study institution, a substantial percentage of the total course work, depending on the student's choice of classes, will consist of various kinds of cases and applied analyses as well as several opportunities to participate in experiential courses which provide hands-on learning with actual business challenges. Because of the school's location in one of the world's major commercial centers, students meet business, economic, labor, and political leaders at the numerous lecture and seminar series held on campus and through alumni and friends in Chicago's business community.

Freedom of choice is a way of life at Chicago Booth. Professors are free to use the teaching method they believe to be most effective; students are free to choose the courses (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/) and professors (http://www.chicagobooth.edu/faculty/directory/) from whom they can best learn. In addition, students are encouraged to make use of the resources of the entire university and take advantage of the critical and intellectual diversity that thrives on the campus. The Chicago Booth MBA is characterized by a willingness to experiment, to judge people by their performances rather than their origins, to judge ideas by their consequences rather than their antecedents.

Chicago Booth's Leadership Effectiveness and Development Program (http://www.chicagobooth.edu/programs/ full-time/academics/lead/) (LEAD) was founded in 1989 as one of the first experiential leadership programs at a major business schools. Held during autumn quarter and lead by second-year student facilitators, the program provides a common educational experience within a curriculum that has always offered exceptional flexibility. This required, noncredit course for full-time program students is designed to enhance self-awareness and interpersonal effectiveness through a varied and highly interactive curriculum. Through these experiences, students will enhance their mastery of three of the most important aspects of leadership: building relationships, inspiring others, and influencing outcomes. Other class activities in autumn quarter revolve around the 10 student soft assigned during LEAD that help build a sense of community, instill the value of teamwork, and acquaint students with the school.

The school admits persons with a wide variety of backgrounds. The normal prerequisite is a four-year bachelor's degree, or equivalent, from an accredited institution. Students who do not have a bachelor's degree may apply to the school for special eligibility. Those interested in consideration for special eligibility must receive approval before an application is submitted and should, therefore, write to the director of admissions for further information.

Requests for an application and other inquiries should be addressed to the Office of Admissions and Financial Aid, The University of Chicago Booth School of Business, 5807 South Woodlawn Avenue, Chicago, Illinois 60637, phone: 773.702.7369, email: admissions@ChicagoBooth.edu. Admissions information is also available online (http://www.chicagobooth.edu/programs/full-time/admissions/).

#### Joint Degree Programs

Chicago Booth participates in joint degree programs with several other schools and divisions of the University: the Law School; School of Social Service Administration; Pritzker School of Medicine; Irving B. Harris Graduate School of Public Policy; Department of Computer Science; East European/Russian, Middle Eastern, South Asian, and Latin American area study centers; and Committee on International Relations. These programs allow the student to pursue combined programs

of study. For more information on the joint MBA/AM programs in international relations or Middle Eastern, East Asian, East European/Russian, Latin American, and South Asian studies, contact the Committee on Joint MBA/AM Programs, The University of Chicago Booth School of Business, 5807 South Woodlawn Avenue, Chicago, Illinois 60637. For all other joint programs, write to the director of admissions of Chicago Booth and the dean of students of the appropriate school.

# The Part-Time MBA Programs

#### The Evening MBA Program

The University of Chicago pioneered the concept of part-time MBA study for men and women employed in management and the professions. Even though the school's Evening MBA Program is more than fifty years old, it is still unique in the field of management education because it is identical in every important way to the full-time program. Entrance requirements and degree requirements are the same for both programs, and courses are taught by the same faculty.

While the academic aspects of the full-time and part-time programs are the same, their logistics are quite different. Evening MBA classes meet on weeknights in the school's convenient downtown location at Gleacher Center, 450 North Cityfront Plaza Drive, along the north bank of the Chicago River between Michigan Avenue and Columbus Drive. Approximately 1,600 students from a diverse background of job functions and industries are currently engaged in parttime study in the program. Many of the students come from Chicago area banks and financial institutions; heavy industry, consulting, advertising, and the entrepreneurial and nonprofit sectors also are well represented. Job titles of current students range from new management trainees to senior executive officers.

Evening MBA students are required to complete Leadership Exploration and Development. This program is initiated during Launch, an orientation program, and continues throughout the program of study.

Classes are available in all four academic quarters. Students completing two courses per quarter will fulfill the program requirements in two-and-one-half years, although the average graduation time is approximately three years. All MBA candidates are allowed a maximum of five years to complete the degree program.

Admissions information is available online (http://www.chicagobooth.edu/programs/evening/admissions/).

#### The Weekend MBA Program

Many managers often find it convenient to take their classes on Saturdays due to travel schedules or the location of their offices far from Chicago. To meet the needs of individuals and their companies, Booth provides an additional avenue of continuing education in its Weekend MBA Program. Students take courses on Saturday mornings and Saturday afternoons at the convenient downtown Gleacher Center and thereby can complete the MBA program in as little as two-and-one-half years. Some students fly in from across the country and around the globe, with over 70 percent of weekend students living outside of Illinois. The Weekend MBA Program follows in the Chicago Booth tradition of offering all MBA candidates the same academic program, same faculty, and same degree as the full-time and evening MBA programs.

Weekend MBA students are required to complete Leadership Exploration and Development. This program is initiated during Launch, an orientation program, and continues throughout the program of study.

Classes are available in all four academic quarters. Students completing two courses per quarter will fulfill the program requirements in two-and-one-half years, although the average graduation time is approximately three years. All MBA candidates are allowed a maximum of five years to complete the degree program.

Admissions information is available online (http://www.chicagobooth.edu/programs/weekend/admissions/).

# The Executive MBA Program

The Executive MBA Program is a part-time MBA program designed to prepare experienced executives to be more effective general managers.

Each year, approximately 90 students are admitted to each location of study in this intensive, twenty-month program. The Executive MBA Program curriculum emphasizes the value of learning in groups and sharing experiences. Students will participate primarily at one of our three international locations: downtown Chicago (Gleacher Center); London (One Bartholomew Close); or Hong Kong (the The Hong Kong Jockey Club University of Chicago Academic Complex); students will have an opportunity to study at each campus over their program of study in international cohorts. These international cohorts are composed of an equal mix of students from all three campuses and convene for week-long sessions in Chicago, London and Hong Kong.

Although the format is different, the Executive MBA Program, like all of Chicago Booth's MBA programs, is based on the Chicago approach to business education. This approach emphasizes an understanding of the fundamental forces in the economy, in organizations, and in individuals, and also in applying this understanding to analyze and produce creative, imaginative solutions to real world problems.

Executive MBA students are required to complete Leadership Exploration and Development. This program is initiated during Launch, an orientation program, and continues throughout the program of study.

Courses in the Executive MBA program are taught by full-time members of the faculty. Most courses are cohorted but students are offered elective courses in finance, marketing, strategy, and entrepreneurship for students interested in deepening their knowledge in areas of particular relevance to their careers.

For further information about the program, contact:

Admissions Office of the Executive MBA Program North America The University of Chicago Booth School of Business 450 North Cityfront Plaza Drive Chicago, Illinois 60611 phone: 312.464.8750 email: xp@ChicagoBooth.edu

Admissions Office of the Executive MBA Program Europe The University of Chicago Booth School of Business One Bartholomew Close Barts Square London EC1A 7BL United Kingdom Phone: +44.(0)20.7070.2200 email: europe.inquiries@ChicagoBooth.edu

Admissions Office of the Executive MBA Program Asia The University of Chicago Booth School of Business The Hong Kong Jockey Club University of Chicago Academic Complex | The University of Chicago Francis and Rose Yuen Campus in Hong Kong 168 Victoria Road, Mount Davis, Hong Kong Phone: +852.2533.9500 email: asia.inquiries@ChicagoBooth.edu

# The PhD Program

The PhD Program is an integral part of Chicago Booth. The school began the first PhD program in business in the United States in 1920 and awarded its first PhD degree in 1922. Since then, more than eight hundred degrees have been granted.

The program leading to the degree of doctor of philosophy is designed for students of outstanding ability who desire advanced studies in preparation for careers in university teaching and research. The number of students admitted to the program each year is small and, within the framework of the general requirements described below, programs of study are designed to fit individual interests. Students with a variety of backgrounds are admitted to the program; undergraduates with strong academic backgrounds (e.g., economics, mathematics, psychology, sociology) and strong research interests are encouraged to apply.

Information about the program and application materials are available online (http://www.chicagobooth.edu/programs/phd/).

# Booth Book Fee

Cases, articles, and simulations are delivered electronically through Canvas, faculty course webpages, or hard-copy in class. Students enrolled in a Booth course will incur a \$25 per course fee, assessed via their tuition bill. Students may be required to purchase a text book in addition to this expense.



# The Divinity School

## Programs of Study

The Divinity School offers programs of study leading to the degrees of Master of Arts (M.A.), Master of Arts in Religious Studies (A.M.R.S.), Doctor of Philosophy (Ph.D.), and Master of Divinity (M.Div.).

The M.A. program is a two-year foundational program in the academic study of religion for students who wish to acquire the requisite skills to develop a research agenda for doctoral study, or to establish a basis for a career in such related fields as education, publishing, government service, nonprofit work, etc.

The M.A. in Religious Studies (A.M.R.S.) is a concentrated program in the study of religion for those in other professions (e.g., law, medicine, business, journalism, the arts) or those who seek greater knowledge of and sophistication in the study of religion. The degree may be pursued in one year, or over a period of three years, taking one or two courses per quarter, allowing students to balance study with existing professional commitments.

The Ph.D. program is a rigorous program of advanced study and research that prepares students for a lifetime of fielddefining scholarship, intellectual leadership, and teaching in the academic study of religion.

The M.Div. program is an intensive cohort-based three-year course of study that prepares students for public religious leadership both in traditional ministerial professions and in new and emerging forms of ministry.

Additional information can be found in the Divinity School Announcements and website. (http://divinity.uchicago.edu/)



# The Law School

The Law School offers a three-year program of professional instruction leading to the degree of Doctor of Law (J.D.). It is designed to prepare students for the practice of law in any American jurisdiction. A bachelor's degree from an approved college is usually a prerequisite to admission. Applicants have the option of submitting the Law School Admission Test (LSAT), Graduate Record Examination (GRE), or Graduate Management Admission Test (GMAT) as part of the Law School's pilot program... Each entering class is limited to approximately 190 students. A student in good standing at an approved American law school who has completed at least one year of law study or a graduate of an approved foreign law school whose studies have been primarily in the common law may apply for admission with advanced standing. Please review the Law School website for any updated information: https://www.law.uchicago.edu/application-requirements/).

The school offers advanced studies leading to the degrees of Master of Laws (LL.M.), Master of Legal Studies (M.L.S.), Doctor of Jurisprudence (J.S.D.), Master of Comparative Law (M.Comp.L.), and Doctor of Comparative Law (D.Comp.L.). The Law School also offers opportunities for students to earn degrees jointly with other parts of the University, including an accelerated joint J.D./M.B.A. program enabling students to receive both degrees in just three years.

What sets Chicago apart from other law schools is its unabashed enthusiasm for the life of the mind and its conviction that ideas matter and are worth discussing. We value legal education and training, not only as preparation for legal careers, but for their own sakes as well. Legal study at Chicago is a passionate venture that begins in the classroom, where the faculty engage their students in a rigorous Socratic dialogue. Chicago's unique first year required course, Elements of the Law, introduces students to the law as an interdisciplinary field and gives them the tools to continue the interdisciplinary inquiry throughout their legal education.

Chicago remains committed to legal education as an education for generalists, although students with particular interests will find it possible to study topics in depth through advanced and more specialized courses.

Emphasizing the acquisition of broad and basic knowledge of law, an understanding of the functioning of the legal system, and the development of analytic abilities of the highest order, a Chicago legal education prepares students for any professional role they might choose: legal practice or legal education, entrepreneurial ventures, international private or public law practice, corporate practice, government service, alternative dispute resolution including arbitration and mediation, or work with nonprofit organizations. Graduates do many things in their careers, and they all take with them the analytic skills emphasized during their years at the Law School.

In addition to a wide array of courses and seminars, second and third year students may participate in a number of clinical programs, including the Prosecution and Defense Clinic, the Housing Initiative Clinic, the Criminal and Juvenile Justice Project Clinic, the Civil Rights and Police Accountability Clinic, the Institute for Justice Clinic on Entrepreneurship, the Exoneration Project Clinic, the International Human Rights Clinic, the Jenner & Block Supreme Court and Appellate Clinic, the Employment Law Clinic, the Federal Criminal Justice Clinic, the Innovation Clinic, the Kirkland & Ellis Corporate Lab Clinic, the Immigrants' Rights Clinic, and the Abrams Environmental Law Clinic. In these programs, students engage in supervised practice, including the representation of clients in court.

A significant portion of the faculty specialize in disciplines other than law, such as economics, history, sociology, and political science. The curriculum devotes substantial attention to relevant aspects of economics, legal history, comparative law, psychiatry, statistics, and other social science methodology. In addition to the student-edited University of Chicago Law Review, Legal Forum, and the Chicago Journal of International Law, the school has three scholarly journals: the Supreme Court Review, the Journal of Law and Economics, and the Journal of Legal Studies. The Law School is also home to the Center for Comparative Constitutionalism, the Coase-Sandor Institute for Law and Economics, the Center for Studies in Criminal Justice, the Center on Law and Finance, and the Legal History Program.

Detailed information on admission, programs, faculty, and facilities is contained in the Announcements of the Law School, available online. (https://registrar.uchicago.edu/registration/course-catalogs/)



# The Pritzker School of Molecular Engineering

pme.uchicago.edu (http://pme.uchicago.edu/)

Dean

Matthew Tirrell

Academic and Student Affairs

- Paul Nealey, Brady W. Dougan Professor in Molecular Engineering and Deputy Director for Education and Outreach
- Rovana Popoff, Senior Associate Dean and Dean of Students
- David Taylor, Associate Dean of Students
- Lisa Abston, Assistant Dean of Students
- Pete Segall, Program Coordinator

Faculty

- Chibueze Amanchukwu (https://amanchukwu.uchicago.edu/)
- David Awschalom (http://ime.uchicago.edu/awschalomlab/people/david\_awschalom/)
- Hannes Bernien (https://ime.uchicago.edu/bernien\_lab/hannes\_bernien/)
- Junhong Chen (https://pme.uchicago.edu/group/junhong-chen-research-group/)
- Huanhuan Chen (https://chen.uchicago.edu/)
- Nicolas Chevrier (https://ime.uchicago.edu/chevrier\_group/people/nicolas\_chevrier/)
- Andrew Cleland (http://ime.uchicago.edu/andrew\_cleland/)
- Aashish Clerk (https://ime.uchicago.edu/aashish\_clerk/)
- Juan de Pablo (http://ime.uchicago.edu/de\_pablo\_lab/people/juan\_de\_pablo/)
- Aaron Esser-Kahn (https://ime.uchicago.edu/esser\_kahn\_group/people/aaron\_esser\_kahn/)
- Andrew Ferguson (https://ime.uchicago.edu/andrew\_ferguson/)
- Giulia Galli (https://ime.uchicago.edu/galli\_group/people/giulia\_galli/)
- Margaret Gardel (http://squishycell.uchicago.edu/)
- Supratik Guha (http://ime.uchicago.edu/guha\_lab/people/supratik\_guha/)
- Alex High (https://ime.uchicago.edu/alex\_high/)
- Jun Huang (http://ime.uchicago.edu/huang\_group/people/jun\_huang/)
- Jeffrey Hubbell (http://ime.uchicago.edu/hubbell\_lab/people/jeffrey\_hubbell/)
- Liang Jiang (https://pme.uchicago.edu/group/jiang-group/)
- Nancy Kawalek (http://ime.uchicago.edu/nancy\_kawalek/)
- Chong Liu (https://ime.uchicago.edu/liu\_group/people/chong\_liu/)
- Peter Maurer (https://ime.uchicago.edu/maurer\_group/peter\_maurer/)
- Juan Mendoza (https://ime.uchicago.edu/juan\_mendoza/)
- Mark Mimee (https://voices.uchicago.edu/mimeelab/)
- Cathryn Nagler (https://naglerlab.uchicago.edu/)
- Paul Nealey (http://ime.uchicago.edu/nealey\_lab/people/paul\_nealey/)
- Jiwoong Park (https://ime.uchicago.edu/jiwoong\_park/)
- Shrayesh Patel (https://ime.uchicago.edu/patel\_group/people/shrayesh\_patel/)
- Rama Ranganathan (https://ime.uchicago.edu/rama\_ranganathan/)
- Samantha Riesenfeld
- Stuart Rowan (https://ime.uchicago.edu/rowan\_group/people/stuart\_rowan/)
- David Schuster (http://schusterlab.uchicago.edu/)
- James Skinner (https://ime.uchicago.edu/skinner\_group/people/james\_skinner/)
- Allison Squires (https://pme.uchicago.edu/group/squires-group/)
- Melody Swartz (https://ime.uchicago.edu/swartz\_group/people/melody\_swartz/)
- Savas Tay (https://ime.uchicago.edu/savas\_tay/)
- Matthew Tirrell (http://ime.uchicago.edu/tirrell\_lab/people/matthew\_tirrell/)
- Sihong Wang (https://ime.uchicago.edu/wang\_group/sihong\_wang/)
- Joshua Weinstein (https://wlab.bio/)

- Shuolong Yang (https://ime.uchicago.edu/shuolong\_yang/)
- Tian Zhong (https://ime.uchicago.edu/tian\_zhong/)

The Pritzker School of Molecular Engineering (PME) is at the forefront of an emerging field. This exciting venture prepares students to combine problem-solving skills with broad expertise in the fundamental sciences to build useful systems from the molecular level up. The PME's approach to engineering research and education emphasizes analytical and disciplinary integration, rather than the traditional separation of engineering disciplines. As a result, students from diverse scientific backgrounds may collaborate on research projects that involve the incorporation of synthetic molecular building blocks, including electronic, optical, mechanical, chemical, and biological components, into functional systems that will impact technologies from advanced medical therapies to quantum computing.

Established in 2011 by the University of Chicago, in partnership with Argonne National Laboratory (http:// www.anl.gov/), the PME brings together a growing team of world-class researchers from diverse science and engineering disciplines who take a hands-on approach to mentoring students and cultivating relationships with industrial and academic partners - resulting in exciting discoveries, new technologies, and innovative solutions.

PME researchers conduct much of their work at the William Eckhardt Research Center, one of the largest and most modern accessible nanofabrication facilities in the Midwest, which includes cutting-edge clean rooms, molecular imaging facilities, biomolecular research labs, and a wet-lab for nanofabrication and other materials work. Additionally, Argonne National Laboratory brings important resources to the endeavor, including the Advanced Photon Source (http:// www.aps.anl.gov/), the Argonne Leadership Computing Facility (http://www.alcf.anl.gov/) and the Center for Nanoscale Materials (http://nano.anl.gov/).

## How to Apply

The Pritzker School of Molecular Engineering welcomes students with diverse academic backgrounds, including all fields of physical, biological and computational sciences, who possess the motivation and background to transcend disciplinary boundaries and pursue research in a bold, problem-focused way. Applicants to the Ph.D. program should have a bachelor's degree in a STEM field and should provide scores for the GRE general test the TOEFL and IELTS (if not a native English speaker) (https://internationalaffairs.uchicago.edu/page/english-language-requirements/). The relevant GRE subject test scores will be considered if submitted, and could strengthen an application, but are not strictly required. Please submit a personal statement of research interests, three recommendation letters, and transcript(s) from all undergraduate and graduate institutions, along with payment of the \$90 application fee. Applications (https://apply-pme.uchicago.edu/apply/) will be due in December 2020/January 2021.

#### Degree Requirements

Graduate students entering the PME Ph.D. program are expected to fulfill a set of course requirements including 3 core courses, 4 in-depth courses in the area relevant to their research field of choice, and 2 broad elective courses. The core and in-depth courses are selected from a portfolio of graduate-level courses, in conjunction with the faculty advisor. These courses are offered by the PME, sister departments (Physics, Chemistry, Biophysics, Computer Science, and Biological Sciences), or are developed specifically for PME students. The broad electives are to provide students with the opportunity to acquire skills in leadership, communication, technology development and product design. The hallmark of PME's Ph.D. program is a highly customized curriculum tailored to each individual student's needs and inspirations.

The vibrant and diverse research activities pursued by PME faculty members offer students a broad range of research opportunities. First-year students explore these opportunities through a required first-year colloquium, a series of faculty research talks during autumn quarter, and by establishing relationships with individual faculty members. As a highly interdisciplinary environment, there are many opportunities to work with multiple faculty members within the PME and/ or with faculty in other partner divisions at the University of Chicago and Argonne National Laboratory (see our website (https://pme.uchicago.edu/about/partners/) for a full list). Every effort will be made to facilitate the matching of each student with one of their preferred advisors by the end of the first term.

Some students may be recommended for a terminal M.S. degree. Such students must have registered full time in the division for a minimum of three quarters and have completed nine courses at the 30000-level or above in STEM departments with grades of C or better (at least two must be research courses with an approved faculty member). In addition, these students may, at the discretion of the Deputy Director for Education, be required to submit a paper on their research.

To establish candidacy, students are required to develop a research proposal describing the objectives, approaches and expected outcomes of their Ph.D. thesis work. Students will give an oral presentation of their written proposal in front of a faculty review committee for approval. This process should be completed no later than the end of the Winter quarter of the second year.

Pedagogical training is a component of our doctoral education. The PME requires that all graduate students engage in meaningful teaching experiences. Most students will satisfy this requirement by serving as Teaching Assistants. Students can also propose a meaningful teaching equivalent to be approved by the Deputy Director for Education and Outreach and the Dean of Students (proposed equivalents must have clearly articulated pedagogical learning goals and objectives).

Students entering the doctoral program in 2017, 2016, 2015, and 2014 must either complete two quarters as a Teaching Assistant or one quarter as a Teaching Assistant and <u>one approved equivalent</u>.

 Students entering the doctoral program after 2017 must either complete two quarters as a Teaching Assistant or one quarter as a Teaching Assistant and two approved equivalents.

PME graduate students are not expected to complete their teaching requirement in their first year, but may be asked to TA as needed in any year thereafter. While there is some consideration of student preferences in teaching assignments, assignments overall are determined by departmental need.

All students will receive scholarship support from the Pritzker School of Molecular Engineering for the first quarter. Subsequently, PME provides full financial support to all graduate students throughout their graduate study at the PME as long as they remain in good standing.

The PME adopts the residency requirement of the University of Chicago as a part of the degree requirements.

# Molecular Engineering Courses

# MENG 30000. Introduction to Emerging Technologies. 100 Units.

This course will examine five emerging technologies (stem cells in regenerative medicine, quantum computing, water purification, new batteries, etc.) over two weeks each. The first of the two weeks will present the basic science underlying the emerging technology; the second of the two weeks will discuss the hurdles that must be addressed successfully to convert a good scientific concept into a commercial product that addresses needs in the market place.

Instructor(s): Matthew Tirrell Terms Offered: Autumn

Prerequisite(s): Completion of the general education requirements in mathematics and physical or biological sciences Note(s): May not be counted toward PME doctoral requirements

Equivalent Course(s): MENG 20000

## MENG 31100. Math Methods in Molecular Engineering. 100 Units.

This course will provide an overview of the general mathematical framework required for the further study of the basic theories (e.g. thermodynamics, quantum mechanics, transport) of molecular engineering. The content of this course mainly includes differential equations, statistics, complex analysis, integral transforms, and stochastic processes, which will be illustrated in the context of common problems in diffusion, heat conduction, particle transfer, and chemical reactions. This course will lay the mathematical foundations for further study in other courses, as well as in future computational research activities.

Instructor(s): Sihong Wang Terms Offered: Autumn

Prerequisite(s): Required Math Courses in the Core, Algebra, Calculus, Physics

# MENG 31200. Thermodynamics and Statistical Mechanics. 100 Units.

This course will present an overview of thermodynamics and statistical mechanics in the context of molecular engineering applications. Such applications will include prediction of the thermophysical properties of multicomponent gases, solids and liquids, prediction of adsorption processes on surfaces or interfaces, and molecular-level descriptions of synthetic and biological macromolecules in solution. Throughout the course, emphasis will be placed on connecting molecular structure and interactions to measurable macroscopic properties.

Instructor(s): Juan de Pablo, Allison Squires Terms Offered: Autumn

Prerequisite(s): MENG 21400 or CHEM 26100-26200 or PHYS 27900 or equivalent, or the consent of the instructor

# MENG 31300. Transport Phenomena. 100 Units.

This course covers essential aspects of molecular transport processes, including fluid dynamics, mass transport and diffusion processes, and energy and heat transport processes. It also discusses the coupling that arises between momentum, mass and energy transport processes.

Instructor(s): Jay Schieber Terms Offered: Autumn

## MENG 31400. Advanced Quantum Engineering. 100 Units.

Quantum mechanics underlies many areas of modern engineering, including materials science, photonics, electronics, metrology, and information processing. This course explores both the fundamental physics of quantum systems as well as the tools utilized to engineer and control them. Topics to be discussed may include eigenvalues and eigenstates, harmonic oscillators, operators, symmetries, spin, angular momentum, perturbation theory, and time evolution. We will also explore examples of engineered quantum systems. The course will assume that students have prior exposure to quantum mechanics at the intermediate undergraduate level.

Instructor(s): Tian Zhong Terms Offered: Autumn

Prerequisite(s): Equivalent to CHEM 26100 or PHYS 23400-23500

## MENG 32200. Cellular Engineering. 100 Units.

Cellular engineering is a field that studies cell and molecule structure-function relationships. It is the development and application of engineering approaches and technologies to biological molecules and cells. This course provides a bridge between engineers and biologists that quantitatively study cells and molecules and develop future clinical applications. Topics include fundamental cell and molecular biology; immunology and biochemistry; receptors, ligands, and their interactions; nanotechnology/biomechanics; enzyme kinetics; molecular probes; cellular and molecular imaging; single-cell genomics and proteomics; genetic and protein engineering; and drug delivery and gene delivery. Instructor(s): Jun Huang Terms Offered: Winter

Prerequisite(s): Completion of the first two quarters of a Biological Sciences Fundamentals Sequence Equivalent Course(s): MOMN 34310, BIOS 21508, MENG 22200
## MENG 32300. Quantitative Systems Biology. 100 Units.

This course aims to provide students with knowledge on the use of modern methods for the analysis, manipulation, and modeling of complex biological systems, and to introduce them to some of the most important applications in quantitative and systems biology. We will first survey theoretical concepts and tools for analysis and modeling of biological systems like biomolecules, gene networks, single cells, and multicellular systems. Concepts from information theory, biochemical networks, control theory, and linear systems will be introduced. Mathematical modeling of biological interactions will be discussed. We will then survey quantitative experimental methods currently used in systems biology. These methods include single cell genomic, transcriptomic, and proteomic analysis techniques, in vivo and in vitro quantitative analysis, and gene editing. Finally, we will focus on case studies where the quantitative systems approach made a significant difference in the understanding of fundamental phenomena like signaling, immunity, development, and diseases like infection, autoimmunity, and cancer.

Instructor(s): Savas Tay Terms Offered: Autumn

Prerequisite(s): Completion of the first two quarters of a Biological Sciences Fundamentals Sequence Equivalent Course(s): MENG 22300

## MENG 33100. Biological Materials. 100 Units.

In this course, students will gain an understanding of the science and application of biomaterials, a field that utilizes fundamental principles of materials science with cell biology for applications in therapeutics and diagnostics. The course will introduce the basic classes of biomaterials, considering metals used in medicine, ceramics and biological inorganic materials such as hydroxyapatite, and polymers used in medicine. The basis of protein adsorption modulating biological interactions with these materials will be elaborated. Examples to be covered in the course will include polymers used in drug delivery, polymers used in protein therapeutics, polymers used in biodiagnostics, and hybrid and polymeric nanomaterials used as bioactives and bioactive carriers. An emphasis in the course will be placed on bioactive materials development. Students will be assessed through in-class discussions, take-home assignments and exams, and an end-of-term project on a topic of the student's choice.

Instructor(s): Jeffrey Hubbell, Mustafa Guler Terms Offered: Autumn

Prerequisite(s): BIOS 20186 and BIOS 20187, or BIOS 20234 and BIOS 20235

Note(s): This course does not meet the requirements for the Biological Sciences major.

Equivalent Course(s): BIOS 29328, MENG 23100

## MENG 33110. Stem Cell Biology, Regeneration, and Disease Modeling. 100 Units.

In this course, students will gain an understanding of the science and application of tissue engineering, a field that seeks to develop technologies for restoring lost function in diseased or damaged tissues and organs. The course will first introduce the underlying cellular and molecular components and processes relevant to tissue engineering: extracellular matrices, cell/matrix interactions such as adhesion and migration, growth factor biology, stem cell biology, inflammation, and innate immunity. The course will then discuss current approaches for engineering a variety of tissues, including bone and musculoskeletal tissues, vascular tissues, skin, nerve, and pancreas. Students will be assessed through in-class discussions, take-home assignments and end-of-term project on a topic of the student's choice.

Instructor(s): Joyce Chen Terms Offered: Spring. This course will be offered starting in the 2021-2022 academic year Prerequisite(s): BIOS 20186 or BIOS 20234

Equivalent Course(s): MENG 23110, MPMM 34300, BIOS 21507

## MENG 33120. The Structural Basis of Biomolecular Engineering. 100 Units.

In this highly practical course, students will learn different approaches to interrogate the structure-function relationship of proteins. Essential skills in identifying related protein sequences, performing multiple sequence alignments, and visualizing and interpreting conservation in the context of available structures will be acquired. The most basic method of biomolecular engineering is based on rationale design which uses such knowledge of sequence and structure to predict or explore changes in function in a low throughput manner. Advanced methods that employ evolutionary platforms, such as phage-, ribosome-, and yeast display, will also be introduced for screening large libraries of biomolecules to find variants with a specific function of interest. Additional biomolecular engineering topics to be covered may include computational tools to model and design proteins, protein fusions, enzymatic or chemical modifications to change function, and pharmacokinetics. Students will be assessed through in-class discussion, take-home assignments, exams, and an end-of-term project chosen by the student with approval from the instructor(s).

Instructor(s): Juan Mendoza Terms Offered: Spring

Prerequisite(s): BIOS 20200

Equivalent Course(s): MENG 23120

## MENG 33130. Proteomics and Genomics in Biomolecular Engineering. 100 Units.

Modern genomic and proteomic technologies are transforming the analysis and engineering of biological systems. One part of the course will introduce the molecular biology of genomics, including how and why next-generation sequencing is used to measure DNA, RNA, and epigenetic patterns. In addition to experimental tools, it will cover key computational concepts for transforming raw genomic data into biologically meaningful data, as well as the application of those results to analyze biological systems. Specific topics will vary but will include single-cell RNA-sequencing and its analysis in different settings. The other part of the course will focus on technologies that enable the identification of proteins and their dysregulation in disease. Examples include mass spectrometry techniques to determine the exact number of proteins in cells, as well as techniques that identify the types and locations of post-translational protein modifications, such as histone methylation, that are frequently associated with diseases such as cancer. Additionally, the course will review methods to discover protein-protein interactions using computational and experimental screening methods. Student assessments will be made through in-class discussion, take-home assignments, exams, and an end-of-term project chosen by the student with approval from the instructor(s).

Instructor(s): Juan Mendoza Samantha Riesenfeld Terms Offered: Autumn

Prerequisite(s): BIOS 20200 or equivalent, and experience with data analysis and computation in R or Python (e.g., MENG 26030, BIOS 20151/20152, STAT/CMSC 11800, or STAT 22000).

Equivalent Course(s): MENG 23130

## MENG 33140. Biodiagnostics and Biosensors. 100 Units.

This course focuses on the biological and chemical interactions that are important for the diagnosis of diseases and the design of new assays. The principles and mechanisms of molecular diagnostics and biosensors, as well as their applications in disease diagnosis, will be discussed. Bioanalytical methods including electrochemical, optical, chemical separation, and spectroscopic will be described. Surface functionalization and biomolecular interactions will be presented for the development of protein and DNA based biosensor applications. The goals for the course are to introduce the fundamental mechanisms of bioanalytical methods/tools, examples of specific methods for diagnostic purposes, and analytical methods necessary for developing new precision medicine tools.

Instructor(s): Mustafa Guler Terms Offered: Spring

Prerequisite(s): Completion of the first two quarters of a Biological Sciences Fundamentals Sequence

Equivalent Course(s): MENG 23140, BIOS 28700

## MENG 33150. Nanomedicine. 100 Units.

This course focuses on the applications of nanotechnology in medicine. The chemical, physical and biological features of the nanomaterials will be discussed for applications in medicine. A survey of concepts in therapeutic drug delivery methods, diagnostic imaging agents and cell-materials interactions will be discussed. Instructor(s): Mustafa Guler Terms Offered: Winter

Equivalent Course(s): MENG 23150

## MENG 33200. Principles of Immunology. 100 Units.

In this course students will gain a comprehensive understanding of the essential principles of immunology. The course will introduce the concept of innate immunity and pattern recognition and how antigen is processed for presentation to the immune system. We will examine how antigen presentation links innate and adaptive immunity. We will then discuss the two arms of adaptive immunity (humoral and cellular) in detail from their development to effector stages. In the last section of the course we will discuss some key aspects of immune system function including immunological memory and vaccination, immunological tolerance and its failure (autoimmunity/allergy) and mucosal immunology and the microbiome. Each topic will be introduced with a lecture and review article during the first class of each week. Students will then lead the discussion of the primary articles assigned in the second class. The course will be graded on class participation, a midterm, and a final essay-based exam.

Instructor(s): Cathryn Nagler Terms Offered: Autumn

Prerequisite(s): An introductory course in immunology is not required. Although intended primarily for graduate students in the Pritzker School of Molecular Engineering, graduate students in the Immunology, Microbiology, and CMMN programs and undergraduates may enroll with the consent of the instructor.

## MENG 33300. Quantitative Immunobiology. 100 Units.

The science of immunology was born at the end of the 19th century as a discipline focused on the body's defenses against infection. The following 120+ years has led to the discovery of a myriad of cellular and molecular players in immunity, placing the immune system alongside the most complex systems such as Earth's global climate and the human brain. The functions and malfunctions of the immune system have been implicated in virtually all human diseases. It is thought that cracking the complexity of the immune system will help manipulate and engineer it against some of the most vexing diseases of our times such as AIDS and cancer. To tackle this complexity, immunology in the 21st century - similar to much of the biological sciences - is growing closer to mathematics and data sciences, physics, chemistry and engineering. A central challenge is to use the wealth of large datasets generated by modern day measurement tools in biology to create knowledge, and ultimately predictive models of how the immune system works and can be manipulated. The goal of this course is to introduce motivated students to the quantitative approaches and reasoning applied to fundamental questions in immunology. Instructr(s): Nicolas Chevrier Terms Offered: Spring

Prerequisite(s): Completion of the first two quarters of a Biological Sciences Fundamentals Sequence. Knowledge of R is recommended but not required. Courses in immunology and microbiology are an advantage but not required (e.g., BIOS 25256 Immunobiology; BIOS 25206 Fundamentals of Bacterial Physiology). Environmental Sequence MDMU 44900 MENEC 23200 PLOS 26402

Equivalent Course(s): IMMU 34800, MENG 23300, BIOS 26403

## MENG 33310. Immuneongineeing Laboratory. 100 Units.

The goal of this course is to provide students with an original and hands-on research experience in the fields of immunoengineering and synthetic immunology, whereby new molecules will be designed and tested by students in the lab to probe or control immune processes.

Instructor(s): Nicolas Chevrier Terms Offered: Spring Equivalent Course(s): MENG 23310

## MENG 33500. Synthetic Biology. 100 Units.

The objective of this course is to provide an overview of the fundamentals of synthetic biology by exploration of published and primary literature. Synthetic biology is an interdisciplinary area that involves the application of engineering principles to biology. It aims at the (re-)design and fabrication of biological components and systems that do not already exist in the natural world. Our goal in the course will be to examine how to apply design principles to biological systems. This will require understanding how biological systems operate, what design principles are successful in biology, and a survey of current approaches in the field to tackle these challenges. Topics will include genetic manipulation, pathway engineering, protein design, cellular engineering, and tools for information input and output in biological systems. Instructor(s): Aaron Esser-Kahn Terms Offered: Spring

Prerequisite(s): Completion of the first two quarters of a Biological Sciences Fundamentals Sequence. MENG 26102, BIOS 20236, and BIOS 20200 are recommended but not required.

Equivalent Course(s): MENG 23500

## MENG 33510. Microfluidics and Its Applications. 100 Units.

Precision control of fluids at the micrometer scale (hence microfluidics) provides unprecedented capabilities in manipulation and analysis of cells and proteins. Moreover, fluids and particles behave in fundamentally different ways when confined to small dimensions, making microfluidics an interesting topic of basic research. This course aims to provide students with theoretical knowledge and practical skills on the use of microfluidics for the manipulation and analysis of physical, chemical, and biological systems. We will first survey theoretical concepts regarding microfluidics. We will then focus on design considerations and fabrication methods for multi-layer microfluidic chips using PDMS soft-lithography. We will learn how to fabricate, multiplex, and control PDMS membrane valves and integrate them into high-throughput analytical systems. We will survey recent developments in microfluidics and its scientific and industrial applications. Biological systems analysis in cell sorting, culture, cell signaling, single molecule detection, digital nucleic acid and protein quantification, and biosensing are some of the applications we will cover. This course will have a laboratory component where students will design, fabricate, and use microfluidic devices and therefore acquire hands-on skills in microfluidic engineering.

Instructor(s): Savas Tay Terms Offered: Spring

Prerequisite(s): MATH 13300 (or higher), or MATH 13200 (or higher) plus BIOS 20151 or BIOS 20152 or BIOS 20236 Equivalent Course(s): MENG 23510

## MENG 35100. Introduction to Polymer Science. 100 Units.

This course introduces the basics of polymer materials and their behavior and properties. The course will cover a general overview to polymers, basic terminology and definitions, their classification, and their applications. The mechanistic and kinetic behavior of the major classes of polymerization reactions (step-growth, chain addition, and "living" polymerizations) will be introduced with respect to control over polymer structure/architecture, size, and properties. The course will also discuss polymer properties, polymer thermodynamics, and basic structure-property relationships that provide polymers with their unique characteristics compared to small molecules. Techniques for characterizing the chemical and physical properties of polymer solutions will be introduced, including osmometry, viscometry, and gel permeation chromatography. Instructor(s): Paul Nealey, Stuart Rowan Terms Offered: Autumn

Prerequisite(s): MENG 26201 or CHEM 26200

Equivalent Course(s): MENG 25100

## MENG 35110. Polymer Synthesis. 100 Units.

This course introduces the most important polymerization reactions, focusing on their reaction mechanisms and kinetic aspects. Topics include free radical and ionic chain polymerization, step-growth polymerization, ring-opening, insertion, controlled living polymerization, crosslinking, copolymerization, and chemical modification of preformed polymers. Instructor(s): Stuart Rowan Terms Offered: Winter

Prerequisite(s): CHEM 22000 and CHEM 22100

Equivalent Course(s): MENG 25110, CHEM 39100

## MENG 35120. Polymer Physics. 100 Units.

This course is an advanced introduction to polymer physics taught at a level suitable for senior undergraduates and graduate students in STEM fields. Topics that will be covered include the statistics and conformations of linear chain molecules; polymer brushes; thermodynamics and dynamics of polymers, polymer blends and polymer solutions; phase equilibria; networks, gels, and rubber elasticity; linear viscoelasticity; and thermal and mechanical properties. Instructor(s): Paul Nealey Terms Offered: Spring

Prerequisite(s): MENG 22500

Equivalent Course(s): MENG 25120

## MENG 35130. Soft Matter Characterization Laboratory. 100 Units.

The goal of this course is to train students in the fundamental experimental approaches to polymer and soft materials characterization. The course will cover both the theory and practice of techniques focused on three themes: molar mass determination (size exclusion chromatography, laser light scattering, NMR spectroscopy); morphology and structure (x-ray scattering, electron microscopy, atomic force microscopy); and thermo-mechanical properties (calorimetry, thermogravimetry, dynamic mechanical analysis, rheometry, tensile testing). Contextual application of these characterization techniques to modern research problems will be introduced. Through this course, students will develop foundational experimental skills necessary for addressing research challenges in modern polymer and soft materials science and engineering.

Instructor(s): Philip Griffin Terms Offered: Winter Prerequisite(s): MENG 25100 Equivalent Course(s): MENG 25130

## MENG 35300. Molecular Science and Engineering of Water. 100 Units.

This course will cover the properties of the water molecule, hydrogen bonding, clusters, supercritical water, condensed phases, solutions, confined and interfacial water, clathrates, and nucleation. In addition, methods of water purification, water splitting and fuel cells, water in atmospheric and climate science, and water in biology, health and medicine will be discussed.

Instructor(s): James Skinner, Chong Liu Terms Offered: Autumn Prerequisite(s): MENG 26201 or CHEM 26200 or PHYS 27900 (or concurrent) Equivalent Course(s): MENG 25300

## MENG 35310. Energy Storage and Conversion Devices. 100 Units.

Course Description: Addressing the challenges of a sustainable energy future requires a foundational knowledge of current and emerging energy conversion and storage technologies. Energy conversion devices such as solar cells, wind turbines, and fuel cells to energy storage systems such as lithium-ion batteries and redox-flow batteries will be covered. Devices related to thermal energy harvesting and management will be introduced as well. Applying basic principles of chemistry, thermodynamics, and transport phenomena, this course will provide a deep understanding of the operational mechanisms, resources, and material properties of each device and the synergies between them.

Instructor(s): Chibueze Amanchukwu Terms Offered: Winter. This course will be offered starting in the 2021-2022 academic year

Prerequisite(s): MENG 21400 (or CHEM 26200 or PHYS 27900) AND MENG 21500 Equivalent Course(s): MENG 25310

## MENG 35320. Electrochemical Principles and Methods. 100 Units.

This course will cover topics related to basic electrochemical principles, methodologies, and systems. In particular, students will be given an overview of fundamental concepts related to electrochemical potential, electric double layer, electrode kinetics, and mass transport processes. In addition, the application of key electrochemical experimental methods will be covered. A few examples include cyclic voltammetry, AC impedance spectroscopy, and the rotating disk electrode. Throughout the course, students will apply basics principles of thermodynamics, kinetics, and transport phenomena. Lastly, a brief overview of traditional electrochemical systems and emerging technologies related to energy storage and conversion (e.g., lithium-ion batteries, flow batteries, and fuel cells) and bioelectronics applications will be discussed. Instructor(s): Shrayesh Patel Terms Offered: Spring

Prerequisite(s): MENG 26102 and MENG 26201

Equivalent Course(s): MENG 25320

## MENG 35330. Materials and Characterization Tools to Address Challenges in Energy and Water. 100 Units.

The development of new materials, as well as understanding the materials' structure and dynamics, are at the heart of addressing the challenges in energy and water technologies. This course will introduce students to the design and development of advanced functional materials that enable energy and water related technologies. The importance of all classes of materials spanning metals, alloys, ceramics, polymers, glasses, and their combinations as composite materials will be covered. To understand material properties and function, students will learn about essential characterization tools including microscopy, spectroscopy and mechanical testing techniques. In addition, the course will convey the importance of advanced characterization tools available at X-ray and neutron facilities that are essential in revealing unique physical properties.

Instructor(s): Junhong Chen Terms Offered: Spring

Prerequisite(s): MENG 21400 (or CHEM 26200 or PHYS 27900)

Equivalent Course(s): MENG 25330

## MENG 35500. Classical Molecular and Materials Modeling. 100 Units.

This course will introduce students to the methods of molecular modeling. The topics covered will include an introduction to the origin of molecular forces, a brief introduction to statistical mechanics and ensemble methods, and an introduction to molecular dynamics and Monte Carlo simulations. The course will also cover elements of advanced sampling techniques, including parallel tempering, umbrella sampling, and other common biased sampling approaches. Students will also establish expertise in scientific programming in Python 3.

Instructor(s): Andrew Ferguson Terms Offered: Winter

Prerequisite(s): MENG 21400 or CHEM 26200 or PHYS 27900, AND MATH 20100 or PHYS 22100. MENG 21300, or prior course work or research experience with elementary programming, is strongly recommended. Equivalent Course(s): MENG 25500

## MENG 35510. Quantum Molecular and Materials Modeling. 100 Units.

Quantum mechanical methods, including quantum chemistry, density functional theory (DFT), and many body perturbation theory, for simulating the properties of molecules and materials will be explored in this course. Numerical algorithms and techniques will be introduced that allow for solution of approximate forms of the Schroedinger and Boltzmann Equations that model structural and transport properties of molecules and materials. The coupling of DFT with molecular dynamics will be detailed for determining finite temperature properties. Coupling of DFT with spin Hamiltonians to study dynamical spin correlations in materials will also be described. Examples of the application of quantum mechanical methods to materials for energy conversion and quantum information technologies will be provided.

Instructor(s): Giulia Galli Terms Offered: Spring

Prerequisite(s): PHYS 23400 or CHEM 26100 or instructor consent

Equivalent Course(s): MENG 25510, CHEM 36800, CHEM 26800

## MENG 35610. Applied Scientific Computing in Molecular Engineering. 100 Units.

This course provides hands-on practical training in scientific computing with a focus on applications to molecular engineering. The first third of the course will provide training in core programming concepts, including a broad introduction to Python programming and use of key scientific libraries. The second third of the course will cover advanced programming topics in CPU and GPU parallel programming and quantum computing, exploring their use through practical examples drawn from a range of scientific and engineering disciplines. The final portion of the class will engage particular applications in computational molecular engineering, including electronic structure calculations of molecules and materials, highlighting the use of modern computing platforms to enable modeling of complex phenomena at unprecedented scales. Students will develop proficiency in making effective use of the diverse landscape of programming models, open-source tools, and computing architectures for high performance computing. Hands-on immersive praxis, mostly using electronic notebooks, will introduce students to the efficient use of several computational resources such as pre-exascale and quantum computers, with the goal of providing them with the confidence and expertise to independently use these tools. Instructor(s): Marco Govoni Terms Offered: Winter

Prerequisite(s): Prior programming experience and familiarity with Linux/bash are useful but not required. Prior coursework in quantum mechanics is useful but not required.

Equivalent Course(s): MENG 25610

## MENG 35620. Applied Artificial Intelligence for Materials Science and Engineering. 100 Units.

Machine learning and other artificial intelligence tools are quickly becoming commonplace in the computational design of materials. This course is intended to introduce the concepts and practical skills needed to employ machine learning techniques across many areas of computational materials science. The course will cover topics including the management of materials data, the creation of surrogate models for costly computations, building predictive models for material properties without known physical models, and using AI to enhance characterization tools. The content of the course will focus both on the theoretical underpinnings of these technologies, as well as the practical skills needed for successful use of AI in an applied setting. Particular application areas include machine learning tools for atomistic simulations, convolutional neural networks for materials image analysis, Bayesian techniques for material property estimation, and generative methods for molecular design.

Instructor(s): Logan Ward Terms Offered: Winter

Prerequisite(s): Familiarity in object-oriented programming in Python is preferred. Prior coursework or experience in machine learning is recommended but not required.

Equivalent Course(s): MENG 25620

## MENG 35630. Design, Processing, and Scale-Up of Advanced Materials. 100 Units.

The course will cover the scientific background needed to design and optimize advanced materials for scalable synthesis. We will introduce the physics-based understanding needed to simulate the non-equilibrium conditions in reacting gas-phase and complex fluids. The course will use in situ measurement data for validation and acceleration of simulations will allow students to experiment and build the conceptual connections to the background theories and simulations. In particular, we will cover examples of scalable material synthesis such as gas-phase combustion synthesis of lithium ion battery materials, atomic layer deposition (ALD) for porous membranes and coatings, Taylor Vortex Reactors (TVR) for the synthesis of industrial catalysts, additive manufacturing of metals using laser sintering, and microfluidic continuous flow reactors for the synthesis of organic crystals for pharmaceutical applications. Data generated using sensors, imaging cameras, spectroscopic probes, and Argonne APS measurements will be combined with machine-learning approaches for decision making, process optimization and steering of synthesis conditions. This course will include optional hands-on sessions at the Argonne National Laboratory's Materials Engineering and Argonne Leadership Computing Facility (ALCF) supercomputing environment for physics based simulations.

Instructor(s): Santanu Chaudhuri Terms Offered: Spring

Prerequisite(s): MENG 21400 or CHEM 26200 or PHYS 27900, MENG 24200, and MENG 24400 or CHEM 26300. Some background in a programming language like C, C++ or python, databases, and ability to launch computing jobs in Linux environment is preferred

Equivalent Course(s): MENG 25630

## MENG 36400. Quantum Computation. 100 Units.

This course provides an introduction to the fundamentals of quantum information to students who have not had training in quantum computing or quantum information theory. Some knowledge of linear algebra is expected, including matrix multiplication, matrix inversion, and eigenvector-eigenvalue problems. Students will learn how to carry out calculations and gain a fundamental grasp of topics that will include some or all of: entanglement, teleportation, quantum algorithms, cryptography, and error correction.

Instructor(s): Andrew Cleland Terms Offered: Winter

Prerequisite(s): MATH 19620 or PHYS 22100 or equivalent

Equivalent Course(s): MENG 26400

## MENG 36500. Foundations of Quantum Optics. 100 Units.

Quantum optics seeks to illuminate the fundamental quantum mechanics of the interaction of light and matter. These principles can form the basis for quantum technologies in areas such as cryptography, computation, and metrology. This course provides a foundation in the fundamental principles and applications of quantum optics. Topics to be discussed may include Fermi's Golden Rule, interaction of two-level atoms and light, spontaneous emission, Rabi oscillations, classical and non-classical photon statistics, beam splitters, atom cavity interaction, vacuum-Rabi splitting, coherence, entanglement, and teleportation. The course will assume that students are comfortable with single-particle quantum mechanics at the level of a typical introductory graduate-level course.

Instructor(s): Alex High Terms Offered: Autumn

Prerequisite(s): PHYS 23400-23500 strongly recommended but not required

Equivalent Course(s): MENG 26500

## MENG 36510. Optics and Photonics. 100 Units.

Electromagnetic radiation in the optical spectrum, or light, plays a fundamentally important role in modern physics and engineering. This introductory course covers the basic properties of light, its propagation in and interactions with matter, and techniques for generating, guiding, and detecting light. Photonic technologies including lasers, optical fibers, integrated optics, optoelectronic devices, and optical modulators will be introduced with selected demonstrations of real-world devices. Instructor(s): Tian Zhong Terms Offered: Winter

Prerequisite(s): PHYS 13300 or PHYS 14300

Equivalent Course(s): MENG 26510

## MENG 36600. Electronic and Quantum Materials for Technology. 100 Units.

This is a one-quarter introductory course on the science and engineering of electronic and quantum materials. The intended audience is upper-level undergraduate students and first-year graduate students in Molecular Engineering and other related fields, including Chemistry and Physics. We will learn the basics of electrical and optical properties of electronic materials, including semiconductors, metals, and insulators starting from a simple band picture, and will discuss how these materials enable modern electronic and optoelectronic devices and circuitry. We will also explore the modern synthesis techniques for these materials and the effects of reduced dimensions and emergent quantum properties. No comprehensive exposure to quantum mechanics, thermodynamics, or advanced mathematical skills will be assumed, even though working knowledge of these topics will be helpful.

Instructor(s): Jiwoong Park Terms Offered: Spring

Prerequisite(s): CHEM 26200 or PHYS 23500 or instructor consent Equivalent Course(s): CHEM 39300, MENG 26600

## MENG 36620. Physics of Solid State Semiconductor Devices. 100 Units.

This course covers the fundamental concepts needed to understand nanoelectronic solid state semiconductor devices. After an overview of the basic properties of semiconductors and electronic transport in semiconductors, we will explore the device physics behind some of the major semiconductor devices that have changed our lives. These include the p-n junction diode, the metal-oxide-semiconductor transistor (MOSFET), the photovoltaics cell (solar cell), the semiconductor light emitting diode (LED) and injection laser, dynamic random access memory (DRAM), and Flash memory. These devices collectively form the backbone behind all computing, communications, and sensing systems used today. Instructor(s): Supratik Guha Terms Offered: Autumn

Prerequisite(s): MENG 21300 (or PHYS 23500 or CHEM 26100) or PHYS 22700 or PHYS 23600

Equivalent Course(s): MENG 26620

## MENG 36630. Introduction to Nanofabrication. 100 Units.

This course will cover the fundamentals of nanofabrication from a practical viewpoint and will be useful for students planning to pursue research involving semiconductor processing technology, as well as broader topics such as microelectromechanical systems (MEMS), quantum devices, optoelectronics, and microfluidics. This course will cover the theory and practice of lithographic patterning; physical and chemical vapor deposition; reactive plasma etching; wet chemical processing; characterization techniques; and other special topics related to state-of-the-art processes used in the research and development of nanoscale devices. A solid grounding in introductory chemistry and physics is expected. Instructor(s): Peter Duda Terms Offered: Winter

Prerequisite(s): PHYS 13300 and CHEM 10200, or equivalent Equivalent Course(s): MENG 26630

## MENG 37100. Implementation of Quantum Information Processors. 100 Units.

This course emphasizes the experimental aspects of quantum information focusing on implementations rather than algorithms. Several candidates for quantum information systems will be discussed including ion traps, neutral atoms, superconducting circuits, semiconducting quantum dots, and linear optics. Students will develop an appreciation for the basic physics of these systems, and their relative merits in a variety of quantum information applications. Instructor(s): Hannes Bernien Terms Offered. Spring

Prerequisite(s): MENG 31400 or PHYS 34100 or instructor consent

## MENG 37200. Quantum Dissipation and Quantum Measurement. 100 Units.

This course introduces the basic tools and concepts used to describe dissipative quantum systems, where a closed quantum system (described by a Hamiltonian) interacts with a dissipative environment. We will also discuss the basic theory of weak continuous quantum measurements and basic quantum limits to measurement. Applications to quantum optics and quantum information processing will be stressed. Topics to be discussed may include quantum master equations, stochastic wavefunction evolution (i.e. quantum trajectories), quantum noise, quantum Langevin equations, and path integral approaches. The course will assume that students are comfortable with single-particle quantum mechanics at the level of a typical introductory graduate-level course.

Instructor(s): Aashish Clerk Terms Offered: Spring Prerequisite(s): MENG 31400 or PHYS 34100 or instructor consent

### MENG 37300. Experimental Techniques and Advanced Instrumentation. 100 Units.

This course aims to provide students with a knowledge of state-of-the-art experimental measurement techniques and laboratory instrumentation for applications in broad scientific research environments, as well as industrial and general engineering practice. Topics include atomic-scale structural and imaging methods, electronic transport in low dimensional matter, magnetic and optical characterization of materials. Basic concepts in electronic measurement such as lock-in amplifiers, spectrum and network analysis, noise reduction techniques, cryogenics, thermometry, vacuum technology, as well as statistical analysis and fitting of data will also be discussed.

Instructor(s): David Awschalom Terms Offered: Spring

Equivalent Course(s): MENG 27300

### MENG 37400. Advanced Quantum Information and Computation. 100 Units.

This course covers the foundations of quantum theory, quantum communication, quantum metrology, quantum computation, quantum error correction, and topological quantum computation. Instructor(s): Liang Jiang Terms Offered: Winter

Prerequisite(s): MENG 31400 or PHYS 34100 or instructor consent

### MENG 49700. Research: Related Departments, Institutes, and Industries. 300.00 Units.

For students requiring course registration for internships or similar professional training opportunities. Students must speak to their PI and receive approval from the Dean of Students before they may be enrolled. Instructor(s): STAFF Terms Offered: Autumn Spring Summer Winter

## MENG 49900. Research: Molecular Engineering. 300.00 Units.

Molecular engineering research

Instructor(s): Faculty Terms Offered: Autumn Spring Summer Winter Note(s): Please select desired number of units when registering

### MENG 70000. Advanced Study: Molecular Engineering. 300.00 Units. Advanced Study: Molecular Engineering

MENG 75000. Advanced Research. 300.00 Units.

Terms Offered: Autumn



## The Irving B. Harris Graduate School of Public Policy Studies

The Harris School of Public Policy is known for its policy-relevant research and for preparing talented individuals to become leaders and agents of social change. One of six professional schools, Harris is part of a world-class intellectual community and continues the University's tradition of scholarship intended to address real-world problems. Established in 1988, Harris emerged from the interdisciplinary Committee on Public Policy Studies. Influential founding supporters include educational sociologist James Coleman, urban sociologist William Julius Wilson, and the 2000 Nobel laureate economist James Heckman.

## Degree Offerings & Programming

An exciting and challenging place to learn, Harris' model of public policy training reflects the University of Chicago's tradition of research and teaching — meticulous scholarship, open inquiry, and cross-disciplinary, critical thinking. Faculty come from diverse academic backgrounds and lend their individual experise to a collaborative curriculum. Students come ready and willing to work and prepare for leadership in public policy. Alumni around the world apply their Chicago Harris training to a multitude of public policy issues, making an impact in whatever arena they choose to work.

The rigorous curriculum stresses the development of analytical tools, which form the basis of the program's approach to understanding the nature of social problems and the impact of public policy. Harris students become conscientious consumers of social science research and are able to evaluate information and make informed policy choices.

However, classroom training is only part of the equation. Harris provides opportunities for students to apply the critical skills that they learn in the classroom to real-world situations. Through a mentor program, internships, Policy Labs and other practica, Harris students are able to enrich their education, network with community leaders, and lend their growing public policy expertise to local, national, and international organizations. The School fosters a spirit of cooperation between students, public policy professionals, faculty, and others to address societal concerns and is constantly seeking new partnership opportunities.

## Harris Degree Programs

- Master of Public Policy (http://harris.uchicago.edu/degrees/masters-degree/MPP/) (MPP), A two-year program for students interested in gaining a thorough training in analytical skills.
- Master of Science in Computational Analysis and Public Policy (https://capp.uchicago.edu/) (MSCAPP), A twoyear program offered with the Computer Science Department for students interested in the design, implementation, and rigorous analysis of data-driven policies.
- Master of Arts in Public Policy (http://harris.uchicago.edu/degrees/masters-degree/one-year-am/) (AM), A oneyear program for students already possessing another graduate degree or in conjunction with another University graduate program.
- Master of Arts in Public Policy with Certificate in Research Methods (http://harris.uchicago.edu/degrees/ masters-degree/macrm/) (MACRM), A 15-month program designed to prepare students for top-tier Ph.D. programs in economics and political science as well as other social sciences, policy, and business.
- Master of Arts in International Development and Policy (https://harris.uchicago.edu/academics/programs-degrees/ degrees/ma-international-development-and-policy-maidp/) (MAIDP), A one-year degree program that provides an introduction to policy design and analysis with particular emphasis on international development and policy. It applies evidence-based analytical approaches, cutting-edge tools, and practical policy innovation to address the world's most pressing problems.
- Double Executive Master's in Health Policy with the London School of Economics (https://harris.uchicago.edu/ academics/programs-degrees/degrees/double-executive-masters-health-policy-london-school-economics/) (AM/MSc), A two-year program designed for professionals working in the healthcare and health policy fields, participants earn an MA in Public Policy from Harris and a MS in Health Economics and Policy from the London School of Economics.
- Evening Master's Program @ 1871 (https://harris.uchicago.edu/academics/programs-degrees/degrees/eveningmasters-program-1871-part-time-ma/) (AM), A four academic quarter, 15-month, part-time degree program designed to help mid-career professionals lead their organizations through complex policy challenges and drive social impact.
- Doctor of Philosophy (PhD) (http://harris.uchicago.edu/degrees/phd/), a doctoral degree for students seeking
  research-related careers in academia or elsewhere.

### Joint Degree Programs with other University of Chicago Schools

Students can earn two University of Chicago graduate degrees in an accelerated time frame.

- Center for Middle Eastern Studies (http://harris.uchicago.edu/degrees/joint-degree/middle-eastern-studies/) (MPP/ AM), a three year program combining public policy with modern Middle Eastern languages, history, and civilization.
- Divinity School (http://harris.uchicago.edu/degrees/joint-degree/divinity-school/) (MPP/MDiv), a four year program combining public policy with issues related to public and urban ministry.

- Chicago Booth School of Business (http://harris.uchicago.edu/degrees/joint-degree/booth-school-of-business/) (MPP/MBA), a three year program combining studies in public policy and business administration.
- Law School (http://harris.uchicago.edu/degrees/joint-degree/law-school/) (MPP/JD), a four year program combining studies in law and public policy.
- School of Social Service Administration (http://harris.uchicago.edu/degrees/joint-degree/school-of-social-serviceadministration/) (MPP/AM), a three year program. Study broad social policy and issues that influence the social work profession.
- Master of Arts in Public Policy and International Relations (http://harris.uchicago.edu/degrees/masters-degree/amma-cir/) (AM/MA), A two-year program offered with the Committee for International Relations for students interested in combining public policy training with a focus on international relations.

## Programs for University of Chicago College Students

- The AB/MPP in Public Policy Studies Program (http://collegecatalog.uchicago.edu/jointdegreeppha/) with the College, a five-year program that offers students an opportunity to begin their professional training in public policy while still in the College, leading to the award of a four-year undergraduate degree in their declared major and a twoyear master of public policy (MPP) degree after five years of studies at the University of Chicago.
- The AB/MS in Computational Analysis and Public Policy Program (http://collegecatalog.uchicago.edu/ jointdegreepphams/) (BA/MSCAPP) with the College, a five-year program offered by The Harris School of Public Policy in conjunction with the Department of Computer Science, offers students an opportunity to begin their professional training in the growing field of civic technology and data science in public policy while still in the College, leading to the award of a four-year undergraduate degree in their declared major and a two-year master of science degree in computational analysis and public policy (MSCAPP) after five years of study at the University of Chicago.
- Harris Scholars Program, (AB, plus MPP or MSCAPP) (http://harris.uchicago.edu/chicagoharrisscholars/), allows
  University of Chicago College students to apply for admission to the MPP or MSCAPP programs during their fourth
  year of study and defer enrollment for two years while obtaining quality experience in the labor market.



## The School of Social Service Administration

### Mission

The School of Social Service Administration is dedicated to working toward a more just and humane society through research, teaching, and service to the community. As one of the oldest and most highly regarded graduate schools of social work, we prepare professionals to handle society's most difficult problems by developing new knowledge, promoting a deeper understanding of the causes and human costs of social inequities, and building bridges between rigorous research and the practice of helping individuals, families, and communities to achieve a better quality of life.

### Professional Purpose

Our educational program is grounded in the profession's history, purposes, and philosophy. Founded in 1908, the School of Social Service Administration (SSA) is one of a handful of institutions that has helped define the profession of social work and the field of social welfare. SSA's first leaders were activists in the Chicago settlement house movement, one of the main strands in what eventually became social work. Since its inception, while most early schools of social work concentrated on practical training for caseworkers, SSA's leaders insisted on the need for a solid foundation in social science and social research as well. In the decades since, the emphases on social research and on applying the insights of social and behavioral sciences, research, and the real world of policy and practice. SSA's interdisciplinary faculty is drawn from social work as well as from such related fields as economics, psychology, sociology, anthropology, political science, public policy, and public health. Research at the School reflects this diversity, and contributes to the development of social work knowledge.

The Master of Arts Program is a two-year program that has been continuously accredited by the Council on Social Work Education and its predecessor organizations since 1919. SSA was reaccredited through June 2020. The School prepares students for advanced professional practice. Based on a body of knowledge, values, and skills of the profession, SSA's diverse course offerings provide students with a solid foundation in the profession and substantive exploration of two concentrations (clinical practice and social administration), the latter of which includes focused attention to non-profit management, community organization and development, and social policy. Quality instruction promotes the development of competent and effective professionals in these areas. Classes are intended to challenge and engage students in the dynamic interplay of theory, research, and practice. Students gain an understanding that whatever the focus of their practice, from the clinical micro-level to the policy macro-level, their activities are guided by an appreciation of service in society and informed by a rigorous evidence and conceptual base.

Since 1920, our Doctoral Program has provided training for those interested in pursuing an academic career in social work and social welfare. SSA's doctoral graduates are leaders in the field of social work and social welfare scholarship. The program is designed to deepen students' mastery of both social science theory and research methods so that students are prepared to contribute to scholarly knowledge in innovative ways. The program accommodates students who are interested in developing and evaluating practice methods and interventions as well as those interested in understanding social problems and accompanying institutional and political responses. The diverse theoretical approaches of SSA's faculty make it uniquely positioned to support an interdisciplinary course of study.

## Values

SSA's educational program is informed by the values of the social work profession. As such, we prepare professionals who are committed to improving the lives of vulnerable and diverse populations and promoting social and economic justice locally, nationally, and globally. Social work values ensure that service is driven by a humanistic perspective that values difference and asks us to consider the impact of our ideas and our work on the well-being of our clients, of our colleagues, of our agencies, and no society as a whole. Our values require that we treat others with dignity and respect and make human rights and social justice central to our work. As a school, SSA strives to be an exemplar of social work education, committed to fostering an inclusive, engaging, and rigorous educational experience, welcoming to all.

Our values require that we behave ethically in both our personal and professional lives. Our ethical precepts encompass such matters as treating our clients with dignity, honoring human diversity and differences, never exploiting clients for our own interests, and always acting in the best interest of clients. This is accomplished through human relationships, honoring the value of integrity and giving graduates the competence to achieve professional goals of the highest quality. Similar precepts govern our relationships with other professionals. We recognize our responsibilities to the organizations for which we work, but we also have the obligation to question policies and practices in the workplace that may not be aligned with the best interests of our clients. We value scientific inquiry and the use of scientific evidence, as well as the development and implementation of evidence-based policy and practice. Finally, our values require continued professional growth and development through lifelong learning.

### Program Context

### The University of Chicago

Since its founding, the University's mission has been expressed in its motto, *Crescat scientia; vita excolatur*, "Let knowledge grow from more to more; and so be human life enriched." The University is committed to the development of new knowledge, both for its own sake and for the common good. The link of its mission to the mission and purpose of SSA

is clear. As social problems become more complex, interconnected, and sprawling, SSA is building upon its distinctive interdisciplinary and applied traditions to generate more robust knowledge and to educate the most talented social work leaders, thereby achieving even greater social benefit, both locally and globally.

SSA's first dean, Edith Abbott, said in 1920 when SSA became a full-fledged professional school, that "only in a university, and only in a great university, could a school of social work get the educational facilities that advanced professional students must have if they were to become the efficient public servants of democracy." Our current President, Robert Zimmer, shares her sentiment and stated during his address during the 487th convocation, "The University of Chicago, from its very inception, has been driven by a singular focus on inquiry...with a firm belief in the value of open, rigorous, and intense inquiry and a common understanding that this must be the defining feature of this university. Everything about the University of Chicago that we recognize as distinctive flows from this commitment."

In his speech at the City Club of Chicago in 2012, President Zimmer again emphasized the role of the University and SSA in generating knowledge for social benefit:

...since its earliest days, the University has strived to serve this city well. In fact, the University's first president, William Rainey Harper, saw service to the broader community as essential to the University's mission. To fulfill this mission, he established the Extension Division, which consisted of public lectures and correspondence courses, and the University Press, which dispersed University research to a wide audience. Both were revolutionary developments in American higher education. As Richard Storr wrote in his history of Harper's tenure as president, "The outward thrust of the University was both deliberate and continuous."

### Zimmer continued,

I could offer a great many examples of academic and research programs that illustrate Storr's link.... But I would like to turn briefly to the School of Social Service Administration, whose service to the community epitomizes that outward thrust at the same time as it underscores the university's singular focus on inquiry and belief in data-driven arguments and ideas.... One of the earliest schools of social work, SSA has its roots in the Chicago settlement house movement and is firmly tied to the history and institutions of this city. At its inception, its mission was to provide professional academic training to those serving the most vulnerable residents in the city's poorest neighborhoods.

Over the years, faculty members, administrators, and alumni have helped draft parts of the Social Security Act, have enforced child labor laws, and have fought for low-income working mothers. They have fostered the century-long partnership with Children's Memorial Hospital (now the Ann & Robert H. Lurie Children's Hospital of Chicago) and forged partnerships with over 700 agencies and programs throughout the city as part of their field placement program. They have moved from their professional training to leadership positions within social services agencies throughout the city and across the country, helping to shape the policies that transform lives. All the while, they have been focused on helping to find solutions for some of the most intractable problems of the city.

SSA is held to the highest of intellectual standards, and faculty recruitment and promotions are guided by rigorous expectations. Students take advantage of the opportunities available in the University, and are able to make use of the rich course offerings of its other departments. In addition to taking courses at SSA from faculty trained across multiple disciplines, students take courses in the schools of law, business, medicine, divinity, and public policy, and in departments of anthropology, sociology, psychology, psychiatry, and others. This is a university in which such a cross-walk between disciplines and departments is fluid, actively encouraged, and easily accomplished.

### City of Chicago

As a great American city, Chicago and its surroundings provide a superb context for learning in the field. It is one of the nation's most diverse cities—a kaleidoscope of social and cultural traditions and populations. Chicago experiences all of the significant problems of the modern metropolis: poverty, violence, crime, dysfunctional schools, inadequate health services, drug use, family breakdown, social exclusion, and community disruption. Our students are able to witness, learn from, and contribute to this complex of activity.

Chicago has notably been at the forefront of pioneering movements in social work, community organizing, women's rights, urban planning and architecture, labor organizing, and African American politics. Building on this tradition, recent initiatives such as the University of Chicago Urban Labs, including its Crime Lab, Education Lab and Health Lab; the Network for College Success; the Employment Instability, Family Well-being, and Social Policy Network (ElNet); the STI and HIV Intervention Network (SHINE); CalYouth; the Smart Decarceration Initiative; and the Chicago Center for Youth Violence Prevention (one of six national Academic Centers of Excellence funded by the Centers for Disease Control and Prevention)—all led or co-led by SSA faculty—yield both knowledge for the field at-large and tangible benefit to the citizens of Chicago, as well as offer opportunities to expand the University's partnership with the City of Chicago. Our everdeepening partnerships with the neighbors in our community serve to enhance the quality of life and economic development of Chicago's South Side, as well as the City of Chicago more broadly and beyond to the national and international levels. With this, SSA plays a very visible role in materially advancing the University's larger purpose to "errich human lives."

Most recently, SSA has been a chief architect in developing new University urban efforts, including the Mansueto Institute for Urban Innovation, which draws on the strengths of the University of Chicago, as well as SSA's approach in applying multiple lenses to complex social problems. As a hub focused on the possibilities of urbanization, the Institute will accelerate urban scholarship through seed funding for such issues as health care, youth development, and violence reduction research – areas where SSA plays a major role. And as home to urban scholars trained in a dozen different disciplines, SSA also is vital to Uchicago Urban, a newly launched University commitment that strives to understand urban issues and create positive impact on urban life. SSA has long pioneered the use of scientific research to identify the causes of and solutions to complex social problems.

## The Global Context

As social problems become ever more globally interconnected, SSA has adopted a strategic commitment to and begun the deliberate implementation of a robust international social welfare program agenda. Our program presently includes a significant focus on international social welfare by integrating cross-national and comparative content into our curriculum, developing study-abroad and internship placement opportunities for students, organizing lectures by international scholars visiting Chicago, and promoting scholarly and student exchanges in partnership with peer institutions abroad. With support provided by the University's Provost's Office, SSA has undertaken a permanent expansion of its faculty ranks, with a strategic focus placed on bringing in faculty with explicit expertise in global and international social welfare. Our first of several faculty hires in this emerging domain joined us in July 2012; since then, SSA has hired additional faculty members, taking SSA's expertise on global questions to an unprecedented level, and allowing the School to forge a defining role in the globalization of social welfare concerns and problems. We now have a full cadre in place that takes up social welfare policy and practice across Asia, Central/Latin America, the former Soviet Union, and Africa, which also complements work in Europe. SSA faculty also serve on the Steering Committee of the University's Center in Delhi, the University's Beijing Governance Committee, and the international advisory board of the Indian Journal of Social Work. We are completing our third year of a concentration in international social work, which builds out field experiences in India, China, and Hong Kong, and through the University's Human Rights program. In addition, we are beginning to develop a global social policy and practice certificate for a more substantive cluster of courses and fieldwork.

One outgrowth of our growing visibility on the global stage is a new acceleration of our international student enrollment, which reached an all-time high this year.

We run an annual, intensive, one-month study-abroad program on urban poverty and community practice for our master's students in collaboration with the Tata Institute of Social Sciences (TISS) in Mumbai, India, the oldest established school of social work in that country. This program combines classroom instruction, field experience (pairing SSA with TISS students in a small set of community placements), seminar discussion, and informal engagement with students and faculty from both schools. The program includes a reciprocal exchange in Chicago, in which TISS students engage in a parallel program to the one in India, strengthening comparative learning across institutions and countries and building meaningful peer relationships. This work has also begun to generate research collaboration among faculty at both institutions.

In China, SSA has established a relationship with colleagues at Peking University (PKU), the home to mainland China's oldest and most well-established social work program. We have hosted PKU faculty at Chicago on two separate occasions and have visited PKU to share insights and orientations to social work curriculum and field education as well as to explore common research interests. We are also partnering with PKU as part of the China Collaborative, an effort jointly sponsored by the Council of Social Work Education in the United States, China Association of Social Work Educators in China, and the International Association of Schools of Social Work to foster the advancement of social work education and the professionalization of social work in China during a time of rapid development. In addition to co-organizing with PKU two workshops in Beijing, SSA hosted, in fall 2014, a delegation of faculty from some of China's leading social work programs, introducing them to a week-long immersion in SSA's robust educational fieldwork-classroom integration.

We established, in 2013, an intensive Institute in China in partnership with Hong Kong Polytechnic University (PolyU) that focuses on responses to social exclusion in Hong Kong, mainland China, and the United States. The annual program allows students from SSA and PolyU to learn from and gain perspectives from each other. The intensive institutes have included local site visits in Hong Kong and Mainland China, where students have examined local social welfare issues facing migrants, asylum seekers, and tenant farmers, including housing shortages, health inequality, and economic development policies. As with the TISS program, this exchange is designed to maximize interaction and learning between students from Hong Kong, China, the U.S., and elsewhere, through a range of formal curricular, field-oriented, and informal interactions, and to leverage the comparative perspective such an exchange might provide to think critically about social work practice and social welfare.

SSA, with our counterparts at Peking University, co-sponsored and hosted a scholarly seminar and strategic planning workshop in June 2012 with support from the University of Chicago's recently established Beijing Center. The seminar explored international perspectives on social policy and urban problems. It brought together scholars from China, the United States, India, and South Korea to also explore knowledge about, policy responses to, and enduring questions focused on urbanization and globalization across particular substantive themes—education, health, children and youth, and poverty and development—as they are playing out across these four national contexts. Following the seminar, a strategic planning workshop was held to discuss the possibilities for both dyadic and multilateral exchanges and institutional relationships among participating institutions. The seminar and workshop were grounded in our developing relationship with PKU and were expanded to include key relationships and potential partnerships with two other peer social work schools in other parts of Asia, TISS in India, and Seoul National University in South Korea. A follow-up workshop was held in 2014 and another in June 2015 in Mumbai, India.

Further galvanizing our efforts is the Collaborative Exchange Program, launched in 2016, which establishes an endowed joint social work educational exchange program in partnership with PKU and Hong Kong Polytechnic University. Working together, the three universities seek to promote the development of graduate social work education and research in China; facilitate international collaborative graduate education and research among the participating universities; and

improve the quality of social work education in China, promoting a rigorously professionalized, effective, and ethical social work workforce and service system. Initially, the Collaborative Exchange Program will establish a Visiting Fellows Exchange Program that will provide a platform for distinguished scholars to hold lectures and seminars, and to carry out intensive study to engage in meaningful cross-national and cross-university exchanges. The program also will host an International Study Exchange Program for master's and Ph.D. students that develops professional and academic leaders who further professionalize the social work field within China, and establish enduring institutional cross-national partnerships.

In addition to these developing relationships, the presence of the University of Chicago's Beijing Center and the recent opening of the University's Center in Delhi open exciting opportunities to provide continued support for ongoing crossnational exchanges, seminars, and conferences, including hosting students and scholars from China, India, the United States, and other countries for varying periods of time.

## Guiding Principles of the SSA Master's Curriculum

The SSA curriculum promotes social justice through its commitment to pluralism, rigorous inquiry, engaged interdisciplinary scholarship, integrative practice, critical thinking, and informed action. These curricular commitments prepare students to understand the complex contexts and power structures that maintain and reproduce inequality and injustice, and to take action to promote individual, social, and structural change.

### 1. Social Justice

SSA supports students to analyze the social, historical, political, economic, and organizational factors that reinforce inequity and injustice. Students and faculty consider their own and others' positionality within those structures, with an appreciation of how identities and affiliations may intersect to compound or mitigate privilege and oppression. We work to increase access, opportunity, and agency in order to dismantle systems of oppression and to help meet the basic needs of diverse individuals, families, and communities with compassion and humaneness.

### 2. Intellectual Pluralism

Intellectual pluralism is at the heart of SSA's teaching. The curriculum reflects the intellectual diversity of our faculty, who come from an array of academic disciplines and professions and represent a variety of political perspectives. This pluralism allows our students and faculty to appreciate multiple ways of knowing, to be critical of what counts as knowledge and research, and to be more inclusive of perspectives that have not traditionally been centered in social work curricula. Our intellectual pluralism also encourages ongoing interrogation of the concept of social justice, which is central to the mission of social work. It also provides us with the tools and flexibility to engage effectively with a broad range of individuals, communities, and social institutions.

## 3. Engaged Scholarship and Teaching

SSA faculty are committed to promoting social justice and social equality through engaged scholarship and education. Scholarship at SSA emerges from interactive engagement with practitioners, policy makers, and communities. SSA faculty members actively integrate their research into curricula and teaching. Students are educated to identify and analyze the causes, consequences of, and approaches to ameliorating human suffering and social injustice.

## 4. Integrative Practice

Our curriculum is built on the assumption that all social workers need to understand and act to mobilize change with and within individuals, families, communities, organizations, public institutions, and political and economic systems. Drawing upon and integrating field and classroom experiences, students will develop skills to practice across multiple levels. In addition, students are trained to use integrative frameworks that move beyond the micro-macro dichotomy.

## 5. Critical Thinking

Students learn to effectively question, assess, evaluate, and respond to assumptions, claims, and values, including those from social science and social work research. Students learn to consider a range of perspectives; carefully assess their assumptions, validity, and implications; and become skilled and insightful evaluators of their own thinking. This process includes reflection on how one's own affiliations and identities may lead to blind spots and biases. Students learn to integrate a critical sensibility into practice so as to make meaningful contributions to the profession, the client base, and to the analysis and resolution of social problems.

## Goals of the School

Carrying out SSA's mission to enrich human life through scholarship, education, and service dedicated toward advancing a more socially just and humane society, we tackle the most intractable and costly of social problems by developing rigorous knowledge and rigorously trained professionals, as well as by leading and informing the field in ways that advance our society and the concerns of those who are most vulnerable. In keeping with its mission, the School's goals are:

To educate competent and effective professionals able to apply clinical, analytical, and organizational knowledge and skills to solve social problems and relieve the distress of vulnerable individuals through ethical practice in a rapidly changing global environment. This requires a learning environment that models respect for diversity and lifelong learners who can think critically about the world around them.

- To produce scholarship that enhances our understanding of the nature and sources of problems of individuals, families, communities, and society and of effective means of preventing and intervening with those problems.
- And to use the School's resources to advance social justice and to serve its immediate community and the field of
  social welfare through the translation of knowledge into action. We aim to provide leadership both institutionally and
  through the efforts of individual faculty.

Graduates of the School of Social Service Administration should be able:

- To understand that the foundation of effective service lies in a grasp of the environment. Individual distress occurs in a social context involving the interaction of biological, psychological, familial, economic, community, and cultural factors.
- To understand that theories supported by empirical evidence serve as conceptual frameworks for examining
  individual distress, organizational functioning, community contexts, and social policies. These theories are drawn from
  multiple disciplines and become the foundation for a coherent framework from which to respond to human needs and
  promote social justice.
- To think critically and challenge the underlying assumptions, core values, conceptual frameworks, and evidence
  on which our professional knowledge is based.
- To engage in competent, ethical, and effective social work, clinical practice, or social administration.
- And to become effective leaders in the fields of social work and social welfare.



## SSA Research Centers

### Center for Health Administration Studies

SSA's Center for Health Administration Studies (CHAS) (http://chas.uchicago.edu/) has been a leader for over 75 years in research and education in health policy and services. CHAS engages an interdisciplinary and international group of health policy and services researchers on topics of health policy innovation and reform, health and social service integration, health access, cost and quality, behavioral health, global health, and preventive intervention. CHAS is well-known for expertise in health policy and service effectiveness for the disadvantaged.

An intentionally interdisciplinary center located in a graduate school of social work is a unique institutional form that both exploits and enriches the values and orientation of the University of Chicago. CHAS has explored new questions, identified knowledge gaps, sought to enhance the translation of research-to-practice, and identified opportunities for collaborations within and outside the University. Programs support faculty research, research dissemination and translation, student learning, and engage researchers, scholars, policy-makers, and practitioners.

The Center also supports an innovative health policy and research training program for graduate professional students at the University of Chicago, the Graduate Program in Health Administration and Policy (GPHAP) (http:// www.ssa.uchicago.edu/gphap/). GPHAP is unique among health administration programs in the United States. GPHAP allows students to earn either a Certificate in Health Administration and Policy or a Certificate in Health Administration and Policy with a Concentration in Global Health, while earning a degree in one of the participating graduate schools on campus: the Booth School of Business (http://www.law.uchicago.edu/), the Harris School of Public Policy (http:// harrisschool.uchicago.edu/), the Law School of Medicine (http://www.law.uchicago.edu/), the Pritzker School of Medicine (http:// pritzker.uchicago.edu/), and the School of Social Service Administration (http://www.ssa.uchicago.edu/).

The Center is housed at the University of Chicago School of Social Service Administration (SSA). CHAS moved to the University of Chicago in 1962, and celebrated its 50th anniversary in 2013.

## Chapin Hall at the University of Chicago

SSA partners with Chapin Hall at the University of Chicago (https://www.chapinhall.org/), an independent entity. Chapin Hall has, since its inception in 1985 as a research and policy center, focused on a mission of improving the wellbeing of children and youth, families, and their communities. This mission is achieved through policy research—by developing and testing new ideas, generating and analyzing information, and examining policies, programs, and practices across a wide range of service systems and organizations. Chapin Hall's researchers meet regularly with policy-makers, agency directors, philanthropic organizations, and community groups to assure that important findings are placed directly in the hands of those who can best use them.

A number of faculty members from the School of Social Service Administration are partners with Chapin Hall and direct research under its auspices. SSA doctoral and master's-level students form an integral part of many Chapin Hall research teams and are active participants in seminars and discussions. Please refer to the Chapin Hall website (http:// www.chapinhall.org) for more information about the organization's research, publications, and conferences.

## Chicago Center for Youth Violence Prevention (CCYVP)

Since 2005, with funding from the Centers for Disease Control and Prevention (CDC), researchers at the CCYVP (https://voices.uchicago.edu/ccyvp/) have been committed to studying and preventing violence in Chicago communities. There is no simple or single answer to eliminating youth violence. The Center approaches the multifaceted problem of youth violence by providing programs targeted at children and families at different developmental ages and with youth at varying levels of associated risk and involvement. Center efforts are coordinated with the social systems that have the most direct influence on youth throughout development – families, schools, community agencies, and justice. Within each of the three core aims, the CCYVP is committed to training the next generation of youth violence prevention scholars, coordinating training and education activities across sites and academic disciplines. Professor and Dean of the University of Chicago School of Social Service Administration Deborah Gorman-Smith (http://ssa.uchicago.edu/ssascholars/d-gsmith/) is the Principal Investigator and director of the Chicago Center for Youth Violence Prevention.

### The primary aims of CCYVP are:

- 1. To understand the nature and causes of youth violence, bringing together a coalition of community, policy and academic partners.
- To design and test prevention interventions, evaluating the process and impact of these interventions in highrisk, urban communities, and identifying the unique challenges and adaptations necessary for implementation in urban neighborhoods.
- 3. To partner with the community, providing training and technical assistance to build capacity for schools and community agencies to select, implement and evaluate evidence-based interventions. CCYVP also evaluates and informs current policy strategies aimed at reducing youth and other forms of violence, evaluates the most promising interventions within the community, and uses these data to inform policy and practice.

## Crime Lab

The UChicago Crime Lab (http://urbanlabs.uchicago.edu/labs/crime/) seeks to improve our understanding of how to reduce crime and violence by helping government agencies and non-profit organizations develop innovative new approaches to reducing violence, and testing these new innovations using randomized controlled trials (RCTs). In 2011, the Crime Lab launched the Education Lab (http://urbanlabs.uchicago.edu/labs/education/) to support RCTs specifically in the area of improving education outcomes, which, particularly in disadvantaged urban areas, are deeply connected to risk of violence involvement. In 2014, the Crime Lab announced the launch of Crime Lab New York (http://urbanlabs.uchicago.edu/labs/ crime-new-york/). Leading researchers will provide New York policy makers with rigorous and objective scientific evidence to help reduce crime, violence, and the costs of criminal justice in a new partnership with the City of New York. The Crime Lab began in April 2008 in partnership with the City of Chicago Office of the Provost, and SSA through the Center for Health Administration Studies (CHAS) and the Chicago Center for Youth Violence Prevention (CCYVP).

#### Health Lab

The UChicago Health Lab (http://urbanlabs.uchicago.edu/labs/health/) leverages rigorous research methods such as randomized controlled trials, large datasets, and partnerships with government agencies and nonprofits to test novel health care delivery models and improve public health outcomes for underserved populations in Chicago and beyond. Health Lab staff partner with civic and community leaders to generate evidence on what works to improve health outcomes for vulnerable individuals who struggle to navigate the healthcare system.

## Interdisciplinary Scholar Networks

SSA launched the Interdisciplinary Scholar Network initiative to bring together scholars across disciplinary and professional lines and to generate innovative and more comprehensive knowledge aimed at addressing some of society's most intractable social problems. Two networks have been established:

- The Employment Instability, Family Well-being and Social Policy Network (http://ssascholars.uchicago.edu/ einet/) (ElNet): This research network enhances the capacity of the field to study employment instability at the lower end of the labor market and develops and evaluates interventions aimed at reducing employment instability and its effects on children and families.
- The STI and HIV Intervention Network (http://ssascholars.uchicago.edu/shine/) (SHINE): This network conducts
  research on the biological, behavioral, and structural factors that heighten vulnerability to sexually transmitted
  infections and HIV among vulnerable populations in the United States. SHINE develops and evaluates interventions to
  alleviate existing STI/HIV disparities.

## Information and Application

For further information and application materials, contact the Office of Admissions, The School of Social Service Administration, 969 East 60th Street, Chicago, IL 60637; telephone: (773) 702-1250 or by visiting the SSA website at http://www.ssa.uchicago.edu (http://www.ssa.uchicago.edu/).



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