Environmental and Urban Studies

Department Website: http://environmentalstudies.uchicago.edu

As of academic year 2017–18 the Environmental Studies major will be known as Environmental and Urban Studies. This new title reflects significant enhancements to the major that include the introduction of a new thematic track focused on human interaction with place, space, and the built environment in urban regions.

The new Urban Environment Track will complement the two existing tracks devoted to study of the interactions of humans and the environment. It is designed to give students a deeper theoretical understanding of cities and practical strength in addressing urban and environmental challenges. It brings a spatial and place-based perspective to these questions, using built form and environmental context as key, conceptual lenses to investigate the social, economic, and political dimensions of urbanism.

Within this new track, students will have the opportunity to study cities from multiple disciplinary perspectives and engage with the historical and theoretical processes of city making, covering issues such as: urban planning for sustainable cities; big data and its potential for improving urban quality of life; the environmental costs and benefits of urbanization; the growing problem of social segregation in urban neighborhoods; the resilience of urban neighborhoods; and the fiscal complexities of urban infrastructure and maintenance.

Program of Study

The program encourages interdisciplinary approaches to the complex entanglements and intersections of urbanism, environments, and humans by incorporating models and methods from the humanities and social and natural sciences. Students can choose to focus on one of following three tracks:

- **Environmental Economics and Policy Track**: This concentration emphasizes issues such as environmental law, development, globalization, and policy studies. This track has a more applied focus and is inclined more toward present-day issues and strategies in the context of politics, law, and economics.

- **Socio-natural Systems and Frameworks Track**: This concentration emphasizes environmental history; landscape studies; human ecology and demography; and environmental ethics, philosophy, and representation. Included in this track are courses on cultural and historical constructions of the natural and the human. This track emphasizes intellectual frameworks as well as the use of substantive information from the social sciences, sciences, and humanities.

- **Urban Environment Track**: As described in the previous section.

Students in other fields of study may also complete a minor in Environmental and Urban Studies with an emphasis on one of these tracks. Requirements for the minor follow the description of the major.

Note: The BS in Environmental Science that is offered by the Department of Geophysical Sciences may be more appropriate for students who intend to pursue postgraduate studies or professional careers in the natural sciences. Students who matriculated before July 2006 and have questions about Environmental Studies courses that they have already taken should contact the program director of Environmental and Urban Studies, Sabina Shaikh (773.834.4405, sabina@uchicago.edu), to devise their program of study.

Program Requirements

Students in the Class of 2020 and beyond will follow new requirements for the Environmental and Urban Studies major, described below. Students in the Classes of 2018 and 2019 will continue under the earlier Environmental Studies requirements, though they are encouraged to explore the new courses and programming. These students may request to switch to the updated Environmental and Urban Studies requirements if they align with the student’s interests and fit within the student’s graduation plan.

Students in the major must complete thirteen courses:

**Environmental and Urban Studies Core Sequence**

Students are required to take the two-course core sequence in Environmental and Urban Studies (ENST 21201 Human Impact on the Environment - ENST 21301 Making the Natural World: Foundations of Human Ecology). These courses provide an overview of contemporary environmental issues and the theoretical and empirical approaches used to understand and address them.

**Thematic Tracks in Environmental and Urban Studies**

Students complete a total of six courses: four courses within the track they have selected as their area of emphasis and two complementary courses from one of the remaining tracks. Lists of approved courses can be found on the department’s website.

- **Environmental Economics and Policy Track**: This concentration emphasizes issues such as environmental law, development, globalization, and policy studies. This track has a more applied focus and is inclined more toward present-day issues and strategies in the context of politics, law, and economics.
• **Socio-natural Systems and Frameworks Track**: This concentration emphasizes environmental history; landscape studies; human ecology and demography; and environmental ethics, philosophy, and representation. Included in this track are courses on cultural and historical constructions of the natural and the human. This track emphasizes intellectual frameworks as well as the use of substantive information from the social sciences, sciences, and humanities.

• **Urban Environment Track**: This concentration emphasizes theoretical and practical perspectives on human interaction with the urban, physical environment. The track encourages a spatial and place-based urban perspective, meaning that built form and environmental context provide the conceptual core through which the social, economic, and political understanding of urbanism is pursued. The track approaches nature and dynamics of cities by capitalizing on the growth of interest in urban planning, urban sustainability, and urban design.

Quantitative Analysis Requirement
One course must be taken to demonstrate competence in quantitative analysis. Students may choose to take either STAT 22000 or an equivalent.

Environmental Sciences and Geographical Studies Course Work
Students must take a total of three approved courses in environmental sciences and geographical studies, as broken down below. Lists of approved courses can be found on the department’s website.

- Students in the Environmental, Economics, and Policy Track and the Socio-natural Systems and Frameworks Track must take two environmental sciences courses and one geographical studies course.
- Students in the Urban Environment track must take two geographical studies courses and one environmental science course.

BA Thesis
Students are expected to develop significant independent research projects in close consultation with their preceptor and faculty adviser. In consultation with Environmental and Urban Studies preceptors, students prepare a topic page that is due eighth week of Spring Quarter in their third year. At this time, students are also required to secure a faculty adviser. The thesis adviser may be chosen from among the faculty teaching in Environmental and Urban Studies and related fields. The preceptor serves as a second reader on all theses. Where appropriate, outside scholars, scientists, or policy experts may be added as additional readers with the approval of the program director.

In Autumn Quarter of their fourth year, students register for ENST 29801 BA Colloquium I, which is designed to teach research skills and more generally to aid the research and writing process. The final version of the BA thesis is due by the second Friday of the quarter in which the student plans to graduate. Students wishing to build additional time for research or writing into their schedules may speak with their thesis adviser about potentially taking ENST 29900 BA Thesis (Reading and Research).

This program may accept a BA paper or project used to satisfy the same requirement in another major if certain conditions are met and with the consent of the other program director. Approval from both program directors is required. Students should consult with the directors by the earliest BA proposal deadline (or by the end of their third year, when neither program publishes a deadline). A consent form, to be signed by the directors, is available from the College adviser. It must be completed and returned to the College adviser by the end of Autumn Quarter of the student’s year of graduation.

Internship or Field Studies Program
In addition to course work, students will be required to participate in an approved internship or field studies program with significant links to their program of study. Completion of the Chicago Studies Certificate Program will satisfy this requirement. See below for details.

Summary of Requirements for the Major

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENST 21201</td>
<td>Human Impact on the Environment</td>
<td>100</td>
</tr>
<tr>
<td>ENST 21301</td>
<td>Making the Natural World: Foundations of Human Ecology</td>
<td>100</td>
</tr>
<tr>
<td>Four courses in the thematic track of emphasis §</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Two courses in the supporting thematic track</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>STAT 22000</td>
<td>Statistical Methods and Applications (or equivalent) *</td>
<td>100</td>
</tr>
<tr>
<td>Three courses in environmental sciences or geographical studies +</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Internship/field studies experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENST 29801</td>
<td>BA Colloquium I</td>
<td>100</td>
</tr>
<tr>
<td>Total Units</td>
<td>1300</td>
<td></td>
</tr>
</tbody>
</table>

§ Students may use a maximum of 200 units of supervised individual reading and research credit (ENST 29700, 29701, 29702, or equivalent) toward their primary track requirements in the major.

* Credit may be granted via examination.
**Advising**

Application for admission to the Environmental and Urban Studies program should be made to the program preceptor, who explains requirements and arranges a preliminary program of study. Admission to the major or minor is complete when a program of study has been approved by the program director. This program of study, which the student formulates in consultation with both the program preceptor and the program director, should be in place by a student's third year.

Environmental and Urban Studies majors and minors must submit the Intent to Graduate form no later than the second week of the quarter in which they intend to graduate. The form is available online and must be submitted electronically. See environmentalstudies.uchicago.edu/content/program-forms for more information.

Students will need to formalize their declaration of the major on my.uchicago.edu and provide regular documentation of any program approvals from the department to their College adviser for the requisite processing.

**Grading**

Students who are majoring or minoring in Environmental and Urban Studies must receive quality grades in courses taken to meet the requirements of the program.

**Honors**

Eligibility for honors requires an overall GPA of 3.0 or higher, a GPA of 3.5 or higher in the courses taken to meet the requirements of the program, and a BA thesis that is judged to be superior by the faculty and preceptor readers.

**Minor Program in Environmental and Urban Studies**

Students who are not Environmental and Urban Studies majors may complete a minor in Environmental and Urban Studies. Such a minor requires that six courses be taken according to the following guidelines:

- ENST 21201 Human Impact on the Environment 100
- ENST 21301 Making the Natural World: Foundations of Human Ecology 100
- Four courses in one of the three thematic tracks * 400

Total Units 600

* Must be chosen in consultation with the program director.

Students who elect the minor program in Environmental and Urban Studies should meet with the program director before the end of Spring Quarter of their third year to declare their intention to complete the minor and select appropriate courses. The approval of the program director for the minor program should be submitted to a student's College adviser by the deadline above on a form obtained from the adviser.

Courses in the minor (1) may not be double counted with the student's major(s) or with other minors and (2) may not be counted toward general education requirements. Courses in the minor must be taken for quality grades, and at least half of the requirements for the minor must be met by registering for courses bearing University of Chicago course numbers.

**Experiential Learning Opportunities**

The Environmental and Urban Studies major offers experiential learning opportunities through the Chicago Studies Quarters and the new Chicago Studies Certificate Program. Students in all tracks, and in particular the Urban Environment track, are encouraged to enroll in these programs, which offer immersion in the academic, experiential, interdisciplinary study of Chicago and its region. For more information about these programs, please see the listing in this catalog or visit chicagostudies.uchicago.edu.

**Chicago Studies Quarter**

Each spring, a small cohort of students studies the culture, politics, and history of the city through a curriculum of three interrelated courses with a common theme through the Chicago Studies Quarter. Admission to the program is competitive. Courses are taught by Chicago specialists from a variety of disciplines and join classroom instruction with weekly excursions and cocurricular activities.

All courses in the Chicago Studies Quarter will have an Environmental and Urban Studies course number. They are also listed in all three tracks of the major and can therefore be taken to satisfy requirements either within or outside the student’s primary track.

**Chicago Studies Quarter: Calumet**

Since 2012, the Calumet Quarter has offered a one-quarter, intensive, experience-based program focused on human land use in the Calumet Region just south and east of the city. As of 2017–18, it will merge with the Chicago Studies Quarter and be officially known as the Chicago Studies Quarter: Calumet. It features integrated courses, projects, field trips, guest lectures, and presentations, and integrates perspectives from the sciences, humanities, and social sciences in the study of local environments and communities.

Chicago Studies Quarter: Calumet is offered every other year. Courses taken as part of this program can be used to satisfy requirements in all three tracks of the major.
Chicago Studies Certificate

New in 2017–18, the Chicago Studies Certificate is designed for students who wish to integrate their academic inquiry with positive impact in Chicago through sustained community engagement, urban scholarship, and creative expression. The certificate is overseen by the University Community Service Center in collaboration with the Environmental and Urban Studies program, which supervises the program’s academic requirements.

Completion of the Chicago Studies Certificate will satisfy the internship/field study requirement for the Environmental and Urban Studies major.

Environmental Studies Courses

ENST 12100. Chemistry and the Atmosphere. 100 Units.
This course focuses on aspects of chemistry as they apply to the Earth's atmosphere. The first half considers atmospheric structure and fundamental chemical principles, while the second half presents examples of chemical systems that operate in the atmosphere. Topics include the chemical composition of the atmosphere, the structure of atoms and molecules, the nature of chemical reactions, the interaction of solar radiation with atmospheric gases, the properties of the water molecule, formation of an ozone layer, and the chemistry of urban air pollution.

Terms Offered: Not offered 2017-18
Note(s): As of Fall 2015 this course will no longer be offered.
Equivalent Course(s): PHSC 13500

ENST 12300. Global Warming: Understanding the Forecast. 100 Units.
This course presents the science behind the forecast of global warming to enable the student to evaluate the likelihood and potential severity of anthropogenic climate change in the coming centuries. It includes an overview of the physics of the greenhouse effect, including comparisons with Venus and Mars; an overview of the carbon cycle in its role as a global thermostat; predictions and reliability of climate model forecasts of the greenhouse world. (L) This course is part of the College Course Cluster program, Climate Change, Culture, and Society.
Instructor(s): D. Archer, D. MacAyeal Terms Offered: Autumn,Spring
Prerequisite(s): Some knowledge of chemistry or physics helpful.
Equivalent Course(s): GEOS 13400,ENSC 13400,PHSC 13400

ENST 12402. Life through a Genomic Lens. 100 Units.
The implications of the double helical structure of DNA triggered a revolution in cell biology. More recently, the technology to sequence vast stretches of DNA has offered new vistas in fields ranging from human origins to the study of biodiversity. This course considers a set of these issues, including the impact of a DNA perspective on the legal system, on medicine, and on conservation biology.
Instructor(s): A. Turkewitz, M. Nobrega Terms Offered: Winter
Prerequisite(s): BIOS 10130. NO BIOLOGICAL SCIENCES MAJORS OR NON-BIOLOGY PRE-MED STUDENTS, except by petition.
Equivalent Course(s): BIOS 11125

ENST 13106. The Hungry Earth: Light, Energy, and Subsistence. 100 Units.
This course considers the continuing erosion of the resources of the Earth by the persisting pressures of a growing human population, which makes a broad knowledge and appreciation of biology essential. Discussion includes the principles of energy conversion by plants as primary producers, the evolution of the structures and mechanisms involved in energy conversion, the origin of crop plants, improvements of plants by conventional breeding and genetic engineering, and the interactions of plants with pathogens and herbivores.
Instructor(s): M. Ruddat Terms Offered: Winter
Prerequisite(s): BIOS 10110 or BIOS 10130
Equivalent Course(s): BIOS 13106

ENST 13132. Ecology in the Anthropocene. 100 Units.
This course emphasizes basic scientific understanding of ecological principles that relate most closely to the ways humans interact with their environments. It includes lectures on the main environmental pressures, notably human population growth, disease, pollution, climate change, habitat destruction, and harvesting. We emphasize the ongoing impacts on the natural world, particularly causes of population regulation and extinction and how they might feedback on to humans. Discussion required.
Instructor(s): T. Price Terms Offered: Autumn
Prerequisite(s): Bios 10130. NO BIOLOGICAL SCIENCES MAJORS OR NON-BIOLOGY PRE-MED STUDENTS, except by petition.
Equivalent Course(s): BIOS 13132
ENST 13300. The Atmosphere. 100 Units.
This course introduces the physics, chemistry, and phenomenology of the Earth's atmosphere, with an emphasis on the fundamental science that underlies atmospheric behavior and climate. Topics include (1) atmospheric composition, evolution, and structure; (2) solar and terrestrial radiation in the atmospheric energy balance; (3) the role of water in determining atmospheric structure; and (4) wind systems, including the global circulation, and weather systems.
Instructor(s): D. Abbot Terms Offered: Spring
Prerequisite(s): MATH 13100-MATH 13200
Equivalent Course(s): GEOS 13300,ENSC 13300

ENST 20104. 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): F. Stuart Terms Offered: Spring
Equivalent Course(s): CRES 20104,GEOG 22700,GEOG 32700,SOCI 30104,SOSC 25100,SO CI 20104

ENST 20500. Introduction to Population. 100 Units.
This course provides an introduction to the field of demography, which examines the growth and characteristics of human populations. It also provides an overview of our knowledge of three fundamental population processes: fertility, mortality, and migration. We cover marriage, cohabitation, marital disruption, aging, and population and environment. In each case we examine historical trends. We also discuss causes and consequences of recent trends in population growth, and the current demographic situation in developing and developed countries.
Instructor(s): L. Waite Terms Offered: Spring
Prerequisite(s): 1st and 2nd year undergraduates only
Note(s): Only offered at the undergraduate level in 2017-18
Equivalent Course(s): GNSE 20120,SOCI 20122

ENST 21201. Human Impact on the Environment. 100 Units.
The goal of this course is to analyze the impact of the human enterprise on the world that sustains it. Topics include human population dynamics, historical trends in human well-being, and our use of natural resources—especially in relation to the provision of energy, water, and food—and the impacts that these activities have on the range of goods and services provided by geological/ecological systems. We read and discuss diverse sources and write short weekly papers.
Instructor(s): Raymond Lodato Terms Offered: Autumn
Note(s): ENST 21201 and 21301 are required of students who are majoring in Environmental Studies and may be taken in any order.
Equivalent Course(s): NCDV 21201

ENST 21301. Making the Natural World: Foundations of Human Ecology. 100 Units.
This course considers the conceptual underpinnings of contemporary Western notions of ecology, environment, and balance, but it also examines several specific historical trajectories of anthropogenic landscape change. We approach these issues from the vantage of several different disciplinary traditions, including environmental history, philosophy, ecological anthropology, and paleoecology.
Instructor(s): Staff Terms Offered: Winter
Note(s): ENST 21201 and 21301 are required of students who are majoring in Environmental Studies and may be taken in any order.
Equivalent Course(s): ANTH 21303

ENST 21339. The Anthropocene: A Time for Humans? 100 Units.
Earth scientists have observed that human activity is now a dominant driver of planetary processes that could depart from expected, natural behavior for thousands, or even millions, of years. Some have proposed that this signals the onset of a new epoch in Earth’s history, the Anthropocene. The Anthropocene concept has had profound effects, captivating scholarly imagination across disciplines and departments, from Geology to English. This course will familiarize students with the contours of a contentious debate understood to have far-ranging theoretical, methodological, moral, and political repercussions. It is intended as a case study for tracing the links between science and society through several lenses drawn from anthropology and social studies of science. We will first consider different ways of conceiving of time, historical narrative, and human-environment relations before investigating how it became possible to think about planetary crisis. We will then explore how international scientific communities are weighing competing claims about the material traces of an Anthropocene and its onset. We will finish with a series of vignettes that demonstrate how the Anthropocene concept could spur a reconfiguration of knowledge production and social life more broadly.
Instructor(s): M. Knisley Terms Offered: Autumn
Equivalent Course(s): ANTH 21339
ENST 21800. Economics and Environmental Policy. 100 Units.
This course combines basic microeconomic theory and tools with contemporary environmental and resources issues and controversies to examine and analyze public policy decisions. Theoretical points include externalities, public goods, common-property resources, valuing resources, benefit/cost analysis, and risk assessment. Topics include pollution, global climate change, energy use and conservation, recycling and waste management, endangered species and biodiversity, nonrenewable resources, congestion, economic growth and the environment, and equity impacts of public policies.
Instructor(s): S. Shaikh Terms Offered: Autumn
Prerequisite(s): ECON 19800 or higher, or PBPL 20000
Equivalent Course(s): LLSO 26201,PBPL 21800

ENST 22000. The Anthropology of Development. 100 Units.
This course applies anthropological understanding to development programs in "underdeveloped" and "developing" societies. Topics include the history of development; different perspectives on development within the world system; the role of principal development agencies and their use of anthropological knowledge; the problems of ethnographic field inquiry in the context of development programs; the social organization and politics of underdevelopment; the culture construction of "well-being:" economic, social, and political critiques of development; population, consumption, and the environment; and the future of development.
Instructor(s): A. Kolata Terms Offered: TBD
Equivalent Course(s): ANTH 35500,ANTH 22000

ENST 22209. Philosophies of Environmentalism and Sustainability. 100 Units.
Many of the toughest ethical and political challenges confronting the world today are related to environmental issues: for example, climate change, loss of biodiversity, the unsustainable use of natural resources, pollution, and other threats to the well-being of both present and future generations. Using both classic and contemporary works, this course will highlight some of the fundamental and unavoidable philosophical questions presented by such environmental issues. Can a plausible philosophical account of justice for future generations be developed? What counts as the ethical treatment of non-human animals? What do the terms "nature" and "wilderness" mean, and can natural environments as such have moral and/or legal standing? What fundamental ethical and political perspectives inform such positions as ecofeminism, the "Land Ethic," political ecology, ecojustice, and deep ecology? And does the environmental crisis confronting the world today demand new forms of ethical and political philosophizing and practice? Are we in the Anthropocene? Is "adaptation" the best strategy at this historical juncture? Field trips, guest speakers, and special projects will help us philosophize about the fate of the earth by connecting the local and the global. (A) (B)
Instructor(s): B. Schultz Terms Offered: Autumn
Note(s): Course is open to Undergraduates and MAPH students.
Equivalent Course(s): HMRT 22201,MAFP 32209,GNSE 22204,PLSC 22202,PHIL 22209

ENST 22506. The Natures of the Factory Farm. 100 Units.
This course looks at the culture, technology, politics, and ecology of industrial agriculture through the lens of the animal-based "factory" farm. Over the quarter we will trace key steps along the process of manufacturing industrialized animals from life to death in order to think about the factory farm's logic, value, and consequences for rural environments (primarily) within the United States. By emphasizing the historical and cultural conditions of possibility that enable the modern-day factory farm, this course illustrates how mass-producing life forms is more than just a matter of technology, profit-making, or necessity. Instead, we will see how legal definitions of the "farm" versus the "factory," ideological notions of animal (and human) "nature," labor law, animal confinement, and the corporate ownership of genetic breeds contribute to its growing ascendency as a global norm of animal production. But the factory farm has also led to new ideals for rural life that go far beyond classic forms of American agrarianism. As such, we will look to a series of case studies that take up the ecological politics of heritage-breed animals, raw milk production, and recent (Europe-based) projects that try to redeem certain elements of industrial agriculture. Along the way, students will receive an introduction to the analysis of food chains, applied ethology, animal studies, agrarian studies, and rural environmental politics.
Instructor(s): A. Blanchette Terms Offered: Not offered 2017–18

ENST 22708. 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.
Instructor(s): F. Albritton Jonsson Terms Offered: Winter
Equivalent Course(s): HIST 32708,HIPS 22708,CHSS 32708,KNOW 22708,KNOW 32708,HIST 22708
ENST 23100. Environmental Law. 100 Units.  
This lecture/discussion course examines the development of laws and legal institutions that address environmental problems and advance environmental policies. Topics include the common law background to traditional environmental regulation, the explosive growth and impact of federal environmental laws in the second half of the twentieth century, regulations and the urban environment, and the evolution of local and national legal structures in response to environmental challenges.  
Instructor(s): R. Lodato  
Terms Offered: Winter  
Prerequisite(s): Third- or fourth-year standing, or consent of instructor  
Equivalent Course(s): LLSO 23100, PBPL 23100

ENST 23289. Marine Ecology. 100 Units.  
This course provides an introduction into the physical, chemical, and biological forces controlling the function of marine ecosystems and how marine communities are organized. The structures of various types of marine ecosystems are described and contrasted, and the lectures highlight aspects of marine ecology relevant to applied issues such as conservation and harvesting.  
Instructor(s): T. Wooston  
Terms Offered: Winter  
Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence and prior introductory course in ecology or consent of instructor  
Equivalent Course(s): BIOS 23289

ENST 23500. Political Sociology. 100 Units.  
This course provides analytical perspectives on citizen preference theory, public choice, group theory, bureaucrats and state-centered theory, coalition theory, elite theories, and political culture. Theses competing analytical perspectives are assessed in considering middle-range theories and empirical studies on central themes of political sociology. Local, national, and cross-national analyses are explored. The course covers readings for the Sociology PhD. Prelim exam in political sociology.  
Instructor(s): T. Clark  
Terms Offered: Spring  
Prerequisite(s): Completion of the general education requirement in social sciences  
Equivalent Course(s): PBPL 23600, SOCI 30106, SOCI 20106

ENST 23506. Being Human in the Anthropocene. 100 Units.  
The Anthropocene is a proposed geologic age in which humans shape the earth on a planetary scale (e.g. through climate change). This scientific term raises many questions for religion and ethics about what it means to be human in the Anthropocene. What vision of humanity is implied by or presumed scholars of the Anthropocene? Is the term problematically or appropriately anthropocentric (human centered)? Does it recognize the uneven contributions to and burdens of environmental change between human communities? How do visions of time and/or humans from various religions challenge the very idea of the Anthropocene?  
Instructor(s): Sarah Fredericks  
Terms Offered: Winter  
Equivalent Course(s): RLIST 23506

ENST 23900. 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 11101-11201 or equivalent, and prior calculus course  
Equivalent Course(s): GEOS 33900, ENSC 23900, GEOS 23900

ENST 24102. Environmental Politics. 100 Units.  
This course examines the different theoretical underpinnings of environmental activism and elucidates the manner in which they lead to different ends. We explore several contrasting views of environmentalism, including the land ethic, social ecology, and deep ecology. Discussions are based on questions posed about the readings and the implications they suggest. Class participation is required.  
Instructor(s): R. Lodato  
Terms Offered: Spring  
Equivalent Course(s): LLSO 24102, PBPL 24102

ENST 24400. Is Development Sustainable? 100 Units.  
Is Development Sustainable? is an undergraduate seminar for students with or without a background in environmental or development issues. Its aim is to grapple with the theory, concepts and practices of sustainable development. We analyze problematical issues underlying population growth, resource use, environmental transformation, social transformation and the plight of developing nations through a consideration of economic, political, scientific, and cultural institutions and processes. The seminar is based on intensive discussion of theoretical and applied dimensions of sustainable development and will require weekly engagement with assigned texts through posting on Canvas, as well as an experimental quarter-long exercise in stake holder role playing within the context of a representative case of a large-scale development intervention. The seminar is designed to be interactive and to equip students with the practical analytical tools to understand the problems and prospects of development in a world characterized by rapidly changing social and environmental conditions. This course is part of the College Course Cluster, Urban Design.  
Instructor(s): A. Kolata  
Terms Offered: Spring  
Note(s): This course qualifies as a "Discovering Anthropology" selection for Anthropology Majors.  
Equivalent Course(s): HIPS 23400, PBPL 24400, ANTH 22015, BPRO 23400
ENST 24701. U.S. Environmental Policy. 100 Units.
Environmental policy is the product of political, historical, economic, and cultural factors that lead to certain outcomes (and not others). This course will examine each of these factors and their importance in shaping the environmental policies that exist in the United States, with consideration of both public lands and pollution control policies, as well as the theoretical underpinnings of environmental activism and policymaking.
Instructor(s): R. Lodato Terms Offered: Autumn
Equivalent Course(s): LLSO 24901, PBPL 24701

ENST 24705. 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, Climate Change, Culture, and Society.
Instructor(s): E. Moyer Terms Offered: Spring
Prerequisite(s): Knowledge of physics or consent of instructor
Equivalent Course(s): GEOS 34705, ENSC 21100, GEOS 24705

ENST 24756. Exploring the Resilient City. 100 Units.
In recent years, sub-national units of government have enacted meaningful policy plans in the wake of the ongoing failure of the international community to address global climate change. Cities in particular have shaped their plans to address the now-inevitable effects of climate change by adopting policies that emphasize resilience and environmental protection, without sacrificing economic growth, and with attention to the ongoing challenges of poverty and inequality. This course will take a comparative look at the policies adopted by cities on an international basis, while defining what it means to be a resilient city and how much the built environment can be adjusted to limit the environmental impact of densely populated metropolises. It will also consider what impact citizen activism and input had upon the shape of each plan and the direction that its policies took. Students will also be asked to consider what might be missing from each plan and how each plan could be improved to foster greater resiliency.
Instructor(s): R. Lodato Terms Offered: Winter
Equivalent Course(s): PBPL 24756

ENST 24776. International Environmental Policy. 100 Units.
Environmental issues have become a prominent part of the work of international organizations and their member nations. The international community has recognized the efficacy of multi-national agreements as a method for comprehensive solutions to problems that were once dealt with on a nation-by-nation basis. This course will address such topics as the Montreal Protocol, climate change agreements, and the Law of the Sea treaty, as well as the efforts being undertaken by some leading nations to address present-time environmental challenges.
Instructor(s): R. Lodato Terms Offered: Spring
Equivalent Course(s): PBPL 24776

ENST 24800. The Complex Problem of World Hunger. 100 Units.
Few of our policymakers are experts in economics, agronomy, food science, and molecular biology, yet all of these disciplines are essential for developing strategies to end world hunger. Choosing one country as a test case, we look at the history, politics, governmental structure, population demographics, and agricultural challenges. We then study the theory of world markets, global trade, and microeconomics of developing nations, as well as the promise and limitation of traditional breeding and biotechnology.
Instructor(s): J. Malamy Terms Offered: Spring
Prerequisite(s): Third- or fourth-year standing
Note(s): This course does not meet requirements for the biological sciences major.
Equivalent Course(s): BPRO 24800, BIOS 02810, SOSC 26900

ENST 25100. Ecological Applications to Conservation Biology. 100 Units.
This course focuses on the contribution of ecological theory to the understanding of current issues in conservation biology. We emphasize quantitative methods and their use for applied problems in ecology (e.g., design of natural reserves, risk of extinction, impact of harvesting, dynamics of species invasions, role of species interaction). Course material is drawn mostly from the current primary literature. One Saturday field trip and computer modeling labs required in addition to scheduled class time. (L)
Instructor(s): C. Pfister, E. Larsen Terms Offered: Autumn
Prerequisite(s): Completion of the general education requirement for the biological sciences and consent of instructor
Equivalent Course(s): BIOS 23351, ECEV 31300
ENST 25300. The Planetary Footprint of Farming. 100 Units.  
This course draws on a ten-day field study of small, organic farms in the Berkshires to explore the environmental impact of modern industrial agriculture and realistic alternatives. Of interest are the roles of natural setting (i.e., geology, climate, meteorology); energy use and material flow; techniques of food production; dietary choices; and development and conservation strategies. Students are financially responsible for travel in December. A classroom component of lectures, readings, and exercises precedes the field trip.  
Instructor(s): P. Martin  
Terms Offered: Autumn, Winter  
Prerequisite(s): Third- or fourth-year standing, or consent of instructor  
Equivalent Course(s): GEOS 25300

ENST 25460. Environmental Effects on Human Health. 100 Units.  
Given the increasing human population in urban areas, the effects of urbanization and the urban environment on human health can be particularly profound. In this course, students will be introduced to environmental health issues, research, policy and advocacy. An overview of fundamental concepts in environmental health will be paired with case studies based on current local issues and topical research. Guest-led lectures and discussions will connect biological, chemical, and physical exposures to their real effects on human communities.  
Instructor(s): Alison Anastasio  
Terms Offered: Spring

ENST 25500. 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, GEOG 35500, BIOS 23406

ENST 25900. Cultural Geography. 100 Units.  
This course examines the two main concerns of this field of geography: (1) the logic and pathology revealed in the record of the human use and misuse of the Earth, and (2) the discordant relationship of the world political map with more complicated patterns of linguistic and religious distribution.  
Instructor(s): Staff  
Terms Offered: Winter  
Equivalent Course(s): GEOG 30100, GEOG 20100

ENST 26002. Urban Design Studio. 100 Units.  
Based on prior course work in either neighborhood or pedestrian-scale urbanism, students in this course will have the chance to formulate a proposal for intervention to address an issue previously uncovered. The proposal could be in the form of a written policy, two-dimensional plan, or three-dimensional design, depending on student interest. Example topics include policy proposals to address issues of gentrification and displacement, proposals to increase the spatial equity and accessibility of public space, three-dimensional visioning of future infill on vacant land, or development of a new kind of urban code to encourage pedestrian life.  
Instructor(s): E. Talen  
Terms Offered: Spring  
Equivalent Course(s): GEOG 24200, PBPL 26002, SOSC SOSC

ENST 26003. 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 firsthand interaction with the urbanism of Chicago. This course is part of the College Course Cluster, Urban Design.  
Instructor(s): E. Talen  
Terms Offered: Autumn  
Equivalent Course(s): GEOG 24300, PBPL 26003, SOSC 26003

ENST 26100. 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): GEOG 36100, HIST 28900, HIST 38900, GEOG 26100
ENST 26420. Sustainable Food Enterprise Lab. 100 Units.
This practicum explores efforts to promote environmental and social sustainability in the food system through market initiatives. Student teams will work on consulting projects for Chicago based client organizations, focusing on the connection between business success and social/environmental impact. Students will address a problem or an innovation challenge for the client and develop actionable, research-based recommendations. Student teams will refine the problem, identify appropriate analytical tools to address it, design data collection methods, collect and analyze data, develop data-driven recommendations and present to the client’s management. Students will be mentored in their work with clients in order to develop their personal and inter-personal skills for working on environmental and social change. Project-based experiential learning will be complemented by readings and discussions that will support the students’ work and invite them to reflect deeply and critically on sustainable food enterprises.
Instructor(s): T. Yifat Terms Offered: Winter. Not offered 2017-18

ENST 26433. Practicum in Environmental Management. 100 Units.
Students in this course will explore and evaluate aspects of environmental sustainability on campus, through scholarly research, interviews, surveys and data collection and analysis. Students will apply concepts and tools from environmental studies, public policy and economics to evaluate and make recommendations for enhancing the environmental performance of campus athletics operations and events. The research will be conducted in collaboration with the Office of Sustainability and Department of Physical Education and Athletics.
Instructor(s): S. Shaikh Terms Offered: Autumn
Prerequisite(s): Prerequisite: PBPL 200 or ECON 198 or equivalent

ENST 26500. Environmental Economics. 100 Units.
This course applies theoretical and empirical economic tools to environmental issues. We discuss broad concepts such as externalities, public goods, property rights, market failure, and social cost-benefit analysis. These concepts are applied to areas that include nonrenewable resources, air and water pollution, solid waste management, and hazardous substances. We emphasize analyzing the optimal role for public policy.
Instructor(s): G. Tolley, S. Shaikh Terms Offered: Autumn
Prerequisite(s): ECON 20100 Equivalent Course(s): ECON 26500

ENST 26530. Environment, Agriculture, and Food: Economic and Policy Analysis. 100 Units.
The connections between environment, agriculture, and food are inherent in our social, cultural, and economic networks. Land use, natural resource management, energy balances, and environmental impacts are all important components in the evolution of agricultural systems. Therefore it is important to develop ways in which to understand these connections in order to design effective agricultural programs and policies. This course is designed to provide students with guidance on the models and tools needed to conduct an economic research study on the intersecting topics of environment, agriculture, and food. Students learn how to develop original research ideas using a quantitative and applied economic policy analysis for professional and scholarly audiences. Students collect, synthesize, and analyze data using economic and statistical tools. Students provide outcomes and recommendations based on scholarly, objective, and policy relevant research rather than on advocacy or opinions, and produce a final professional-quality report for a workshop presentation and publication. This small seminar course is open by instructor consent to undergraduate and graduate students who meet the prerequisites. For consideration, please submit a one-page proposal of research to pge@uchicago.edu.
Instructor(s): S. Shaikh Terms Offered: Winter
Prerequisite(s): ECON 20000 or ECON 20100 or PBPL 20000 or PBPL 22200 (or equivalent); STAT 22000 or STAT 23400 or PBPL 26400 (or equivalent); for ECON Enrollment: ECON 20000 and ECON 20100, STAT 23400 Equivalent Course(s): ECON 26530, PBPL 26530, PHHA 32510

ENST 26531. Environment, Agriculture, and Food: Advanced Economic and Policy Analysis. 100 Units.
This course is an extension of ENST 26530 but also stands alone as a complete course itself. Students don’t need to take ENST 26530 to enroll in this course. This small seminar course is open by instructor consent to undergraduate and graduate students who meet the prerequisites. For consideration, please submit a one-page proposal of research to pge@uchicago.edu.
Instructor(s): S. Shaikh Terms Offered: Not offered 2017-18
Prerequisite(s): ECON 20000 or ECON 20100 or PBPL 20000 or PBPL 22200 (or equivalent); STAT 22000 or STAT 23400 or PBPL 26400 (or equivalent); for ECON Enrollment: ECON 20000 and ECON 20100, STAT 23400 Equivalent Course(s): ECON 26540, PBPL 26531, PHHA 32520

ENST 26701. Tropical Ecology. 100 Units.
This course will provide an introduction to tropical ecology. We will cover topics ranging from the biogeochanical properties that create tropical ecosystems to the structure of tropical forests to the factors that contribute to the high biodiversity characteristic of tropical zones. We will also look at interspecific interactions important in tropical systems, including trophic dynamics, chemically mediated plant-insect relationships, pollination, and decomposition. We will also discuss issues of conservation concern in tropical forests. The course will draw from a comprehensive textbook as well as a selection of primary literature.
Instructor(s): Staff Terms Offered: Not Offered 2017-18
Prerequisite(s): Completion of the general education requirement in biological sciences or consent of instructor Equivalent Course(s): BIOS 23257
ENST 27100-27201-27220-27301-27320. Integrative Research Seminar: Calumet; Food Security and Agriculture: Calumet; Environmental Management and Planning in the Calumet Region; Restoration Ecology; Topics in the Ecology of the Calumet Region.

This full-time, one-quarter sequence is intended to help students bridge theory and practice in environmental studies. The program features four integrated courses, projects, field trips, guest lectures, and presentations. Students will work in the classroom and field as they integrate perspectives from the sciences, humanities, and social sciences in the study of local environments and communities. Enrollment is based on acceptance into the Calumet Quarter Program. Visit pge.uchicago.edu/calumet for an application, which requires an unofficial transcript and letter of recommendation. Students must enroll in the three core Calumet Quarter courses ENST 27100-27201-27301 and may also enroll in the optional readings course ENST 29720. The Calumet Quarter will not be offered in Spring Quarter 2017. It will be offered next in Spring Quarter 2018.

ENST 27100. Integrative Research Seminar: Calumet. 100 Units.
This course examines the history of land use and social and environmental issues in the Calumet region. In addition to discussing the Calumet region broadly, students develop final projects grounded in research from all courses in the field studies program. Talks and discussions are led each week by guest lecturers who represent industry, nonprofit organizations, or Chicago government, or who are conducting research within the Calumet region.
Instructor(s): Staff Terms Offered: Spring
Prerequisite(s): Enrollment is based on acceptance into Calumet Quarter Program.

ENST 27201. Food Security and Agriculture: Calumet. 100 Units.
Do you know where your next meal will come from? Many people around the world, and even close to home, do not. The Food and Agricultural Organization explains that food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Food security is thus a complex issue involving aspects of food production and distribution, poverty, healthy power, and social networks, and cultural choice. In this course we use the Calumet region as a case study to examine some aspects of the food security debate, especially the basic conceptual divide between the framework of food security, as defined by international organizations above, and the more grass-roots notion of food sovereignty. Though we will aim for an overview of the issues, we focus this quarter more specifically on issues of agriculture and the food system, including urban agriculture, permaculture, and other challenges to the dominant industrial model. In a region with significant economic distress and area of “food desert,” the Calumet presents examples of both challenge and response to this critical topic.
Instructor(s): K. Morrison Terms Offered: Spring. Not offered 2017-18
Prerequisite(s): Enrollment is based on acceptance into Calumet Quarter Program.

ENST 27220. Environmental Management and Planning in the Calumet Region. 100 Units.
This course focuses on the identification and measurement of environmental outcomes in the Calumet Region of Chicago. Topics include the quantification of air quality impacts from industrial pollution and the potential for green infrastructure development to manage stormwater in the region and beyond. The course will introduce students to the environmental concerns and opportunities in the area and develop the methods and tools for measurement, management and planning for improved outcomes for residents and businesses. The course will draw on economic concepts and tools through applications of environmental management and policy. Enrollment in this course requires participation in the Calumet Quarter.
Instructor(s): S. Shaikh Terms Offered: Spring
Prerequisite(s): Enrollment is based on acceptance into Calumet Quarter Program.

ENST 27301. Restoration Ecology. 100 Units.
This course will give students a strong foundation in the discipline of restoration ecology, building up from basic ecological principles to concepts and theory applied to restoration of ecosystems. We will evaluate restoration projects based on a discussion of primary literature with a focus on ecosystems found in the Calumet region. The course will also have a strong field component, and students will work on restoration projects in the Calumet area. Wetland restoration will be a primary focus, and projects will include studies of plant and bird diversity as well as water quality evaluations. The fieldwork will form the basis of the students’ own case studies in restoration ecology, and students will write reports on their field work, analyzing their own projects in the context of the larger body of wetland restoration literature.
Instructor(s): T. Massad Terms Offered: Spring. Not offered 2017-18
Prerequisite(s): Enrollment is based on acceptance into Calumet Quarter Program.

ENST 27320. Topics in the Ecology of the Calumet Region. 100 Units.
We consider stewardship of land, habitats, natural areas, communities, and buildings in the Calumet Region of Chicago and Northwest Indiana. The goal of this course is to give students a basic understanding of select ecological principles and concepts, a demonstration of their application to local ecosystems, and the opportunity to collaborate with stewards in the Calumet.
Instructor(s): A. Anastasio Terms Offered: Spring
Prerequisite(s): Enrollment is based on acceptance into Calumet Quarter Program.
ENST 27150. Urban Design with Nature: Assessing the Social and Natural Realms in the Calumet Region. 100 Units.
This course will use the Calumet region as a laboratory for evaluating the social, environmental, and economic effects of alternative forms of human settlement. Students will be introduced to the basics of geographic information systems (GIS) and use GIS to map the Calumet region’s “place types” – human habitats that vary along an urban-to-rural transect, as well as the ecosystem services provided by the types. They will then evaluate these place types using a range of social, economic and environmental criteria. In this way, students will evaluate the region’s potential to simultaneously realize economic potential, protect environmental health, and provide social connectivity.
Instructor(s): Sabina Shaikh and Emily Talen Terms Offered: Spring
Equivalent Course(s): PBPL 27155,GEOG 27150

ENST 27221. Sustainable Urbanism. 100 Units.
This course explores cutting-edge solutions to today’s interrelated challenges of decarbonizing the economy, reversing the obesity epidemic, and replacing sprawl. In addition to learning about the current state of sustainable urban planning and design, students will apply to the Calumet region a collection of future-forward urban design strategies to build prosperous and sustainable urban communities that can thrive for years to come. Topics include community organizing; public health, safety, and welfare; governance; neighborhood planning and design; stormwater management; density, and net-zero-energy building design. While not a studio class, there will be opportunities to practice spatial design drawing, community engagement tactics, and sustainability metrics.
Instructor(s): Doug Farr Terms Offered: Spring
Equivalent Course(s): GEOG 27221,PBPL 27221

ENST 27325. Urban Ecology in the Calumet Region. 100 Units.
This course will give students a strong foundation in the local ecology of the Calumet. Students will use local research and habitats to understand fundamental concepts in ecology and the scientific method. Students will explore some of these habitats during field trips with scientists and practitioners. The course focus will be on urban ecology in the region, whether these fundamental ecological concepts are applicable, what other factors need to be considered in the urban ecosystem, and the role humans have in restoring natural and managing novel ecosystems, among other topics.
Instructor(s): Alison Anastasio Terms Offered: Spring
Prerequisite(s): Enrollment is based on acceptance to the Chicago Studies Quarter: Calumet Equivalent Course(s): PBPL 27325,GEOG 27325

ENST 27420. Urban Gardens: Therapeutic, Educational, and Community Building Practicum. 100 Units.
This teaching practicum will consider emerging research on urban gardens for individual, community, and environmental wellness, and will prepare students to design teachable lessons for school-based programs and community building. Course material is drawn from current literature, curricula, and case studies that demonstrate the impacts and methods of garden education, place-based development, and horticultural therapy. We will discuss the perceived individual, societal, and global problems that urban gardens are thought to address and the reported benefits they deliver. Students will evaluate the goals, organization, methodology, values-bias, and efficacy of existing curricula, and design a series of educational workshops that can be adapted to multiple age groups and learning environments. The course will include one or more field trips, and students will be required to volunteer/teach at an area school or community garden program.
Instructor(s): M. Mass Terms Offered: Not offered 2017-18
Note(s): This course will include off-site field trips and community service/teaching commitment.

ENST 27750-27751. Practicum in Environment, Agriculture, and Food Policy I-II.
This course sequence is designed to acquaint students to real-world policy-making questions. Students will work together, along with an organizational partner, on designing and conducting a research project. Course work will involve academic literature reviews, various forms of data collection, research design, statistical analysis, and presentation of a final report. Previous projects have included certification of green restaurants in Chicago, mapping of campus green roofs in Chicago, transportation research for a Chicago museum exhibit, and design of incentive programs for storm water management in Chicago. Students in the course will also handle all aspects of running the Environment, Agriculture, and Food Working Group (eaf.uchicago.edu), including communication and outreach through website content and social media. Completion of the two-quarter sequence satisfies the undergraduate public policy studies practicum requirement.

ENST 27750. Practicum in Environment, Agriculture, and Food Policy I. 100 Units.
No description available.
Instructor(s): S. Shaikh Terms Offered: Autumn. Not offered 2017-18
Prerequisite(s): Open only to Public Policy majors and Environmental Studies majors and minors
Equivalent Course(s): PBPL 27750

ENST 27751. Practicum in Environment, Agriculture, and Food Policy II. 100 Units.
No description available.
Instructor(s): S. Shaikh Terms Offered: Winter. Not offered 2017-18
Prerequisite(s): Open only to Public Policy majors and Environmental Studies majors and minors
Equivalent Course(s): PBPL 27751
The global energy and climate challenge is one of the most important and urgent problems society faces. Progress requires identifying approaches to ensure people have access to the inexpensive and reliable energy critical for human development, without causing disruptive climate change or unduly compromising health and the environment. The course pairs technical and economic analysis to develop an understanding of policy challenges in this area. Lecture topics will include the past, present, and future of energy supply and demand, global climate change, air pollution and its health consequences, selected energy technologies such as solar photovoltaics, nuclear power, unconventional oil and gas, and an analysis of theoretical and practical policy solutions in developed and emerging economies.
Instructor(s): M. Greenstone, J. Deutch Terms Offered: Autumn
Prerequisite(s): PQ: Third- or fourth-year standing in the College.
Equivalent Course(s): ECON 26730, PBPL 29200, BPRO 29200

ENST 29000. Energy and Energy Policy. 100 Units.
This course shows how scientific constraints affect economic and other policy decisions regarding energy, what energy-based issues confront our society, how we may address them through both policy and scientific study, and how the policy and scientific aspects can and should interact. We address specific technologies, both those now in use and those under development, and the policy questions associated with each, as well as with more overarching aspects of energy policy that may affect several, perhaps many, technologies.
Instructor(s): S. Berry, G. Tolley Terms Offered: Autumn
Prerequisite(s): PQ: Third- or fourth-year standing. For ECON majors who want ECON credit for this course (ECON 26800); PQ is ECON 20100.
Equivalent Course(s): CHSS 37502, ECON 26800, PBPL 29000, PPHA 39201, PSMS 39000, BPRO 29000

ENST 29700. Reading and Research. 100 Units.
This course is a reading and research course for independent study not related to BA research or BA paper preparation.
Terms Offered: Autumn, Spring, Winter
Prerequisite(s): Consent of faculty supervisor and program director
Note(s): Students are required to submit the College Reading and Research Course Form. This course may be counted as one of the electives required for the major.

ENST 29701. Readings and Research: Working Group in Environment, Agriculture, and Food (EAF) 100 Units.
This course consists of participation in the Environment, Agriculture, and Food Group in a role assigned by the instructor.
Instructor(s): S. Shaikh Terms Offered: Winter
Prerequisite(s): Registration by instructor consent only
Note(s): Please email Sabina Shaikh at sabina@uchicago.edu.
Equivalent Course(s): PBPL 29701

ENST 29720. Reading and Research: Calumet. 100 Units.
The Program on the Global Environment will be hosting many interesting guest speakers during the Calumet Quarter, and this readings course will be dedicated primarily to the discussion of relevant articles written by the speakers. This will acquaint students with literature on a variety of topics ranging from food security to wetlands ecology to conservation theory. Students will be expected to discuss the articles, drawing on knowledge gained in the three core Calumet courses. Students will also attend the guest presentations and write short responses to the lectures.
Instructor(s): Staff Terms Offered: Spring
Prerequisite(s): Enrollment is based on acceptance into Calumet Quarter Program.

ENST 29801. BA Colloquium I. 100 Units.
This colloquium is designed to aid students in their thesis research. Students are exposed to different conceptual frameworks and research strategies. The class meets weekly.
Instructor(s): Staff Terms Offered: Autumn
Prerequisite(s): Students must have an approved topic proposal and a faculty reader
Note(s): Required of students with fourth-year standing who are majoring in Environmental Studies.

ENST 29802. BA Colloquium II. 100 Units.
This colloquium assists students in conceptualizing, researching, and writing their BA theses.
Instructor(s): Staff Terms Offered: Winter
Prerequisite(s): Open only to students with fourth-year standing who are majoring in Environmental Studies

ENST 29900. BA Thesis (Reading and Research) 100 Units.
This is a reading and research course for independent study related to BA research and BA thesis preparation.
Instructor(s): Staff Terms Offered: Winter, Spring
Prerequisite(s): Consent of instructor and program director
Note(s): Students are required to submit the College Reading and Research Course Form.
Font Notice
This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

- Times was used instead of Trajan.
- Times was used instead of Palatino.

The editor may contact Leepfrog for a draft with the correct fonts in place.