MINOR PROGRAM IN QUANTITATIVE SOCIAL ANALYSIS

The minor in Quantitative Social Analysis explores social statistics and mathematics to describe, understand, and predict the behavior and experiences of individuals, groups, and organizations of groups. These statistical and mathematical methods focus on measurement, analysis, or both, using techniques and strategies that are widely useful, for example, in understanding thoughts and behaviors of individuals, as well as the cultures of societies, fluctuations of markets, actions of governments, spread of disease, dynamics of migration, causes of war, and the diffusion of knowledge. The minor in Quantitative Social Analysis develops strong statistical foundations for the purpose of learning how to draw valid inferences from quantifiable data and critically evaluate empirical evidence in the social and behavioral sciences.

A minor in Quantitative Social Analysis provides an excellent foundation for application to graduate study at all levels and in many disciplines, ranging from economics, psychology, political science, public policy, and sociology, as well as non–social science disciplines such as medical school, public health, education, social services, applied mathematics, and applied computer science. The minor in Quantitative Social Analysis aims to train students in ways that are more immediately attractive to employers in industry, government, the military, environmental studies, journalism, and public interest and advocacy groups, as well as to University of Chicago faculty seeking research assistance.

PROGRAM REQUIREMENTS

Course Work

Students take five (5) courses that cover three levels: Basic Skills (one course), Advanced Skills (two courses), and Quantitative Applications (two courses). Or, if the student has already completed a Basic Skills course for the major, then three Advanced Skills courses and two Quantitative Applications courses.

- Students who are taking Basic Skills courses should primarily focus on developing theoretical understanding of statistics and building up quantitative skills (rather than simply utilizing quantitative skills as part of the course).
- Students who are taking Advanced Skills courses will further develop their statistical skills with broad usefulness in social scientific research.
- Students who are prepared with more advanced statistical training are then able to more deeply understand the Quantitative Applications in courses throughout the social sciences and engage in research appropriate to those courses in solo activity or as part of research teams.

In order to ensure that the minor in Quantitative Social Analysis represents the diversity of training across the social sciences, no more than three courses may be taken in any one department, and the Quantitative Applications courses must be drawn from at least two departments. In all cases, students should be aware that some approved courses have explicit prerequisites which may not count toward the Quantitative Social Analysis minor.

SUMMARY OF REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Units</th>
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<tbody>
<tr>
<td>One Basic Skills course</td>
<td>100</td>
</tr>
<tr>
<td>Two Advanced Skills courses</td>
<td>200</td>
</tr>
<tr>
<td>Two Quantitative Applications courses</td>
<td>200</td>
</tr>
<tr>
<td>Total Units</td>
<td>500</td>
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APPROVED COURSES

The following courses have been approved by the Committee on Quantitative Methods in Social, Behavioral, and Health Sciences as appropriate for the minor in Quantitative Social Analysis and are listed by the three levels stipulated above (Basic Skills, Advanced Skills, and Quantitative Applications).

Basic Skills

One course; may not be satisfied with AP credit.

Students who have already taken SOSC 13100-13200-13300 Social Science Inquiry I-II-III or previously completed any of the Basic Skills courses as part of their majors may substitute an additional Advanced Skills course in place of the Basic Skills course.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CHDV 20101</td>
<td>Applied Statistics in Human Development Research</td>
<td>100</td>
</tr>
<tr>
<td>ECON 21010</td>
<td>Statistical Methods in Economics</td>
<td>100</td>
</tr>
<tr>
<td>GISC 28702</td>
<td>Introduction to GIS and Spatial Analysis</td>
<td>100</td>
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</tbody>
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MACS 30500 Computing for the Social Sciences 100
PBHS 32100 Introduction to Biostatistics 100
PBPL 26400 Quantitative Methods in Public Policy 100
PLSC 30500 Introduction to Quantitative Social Science 100
PSYC 20100 Psychological Statistics 100
PSYC 20200 Psychological Research Methods 100
PSYC 20250 Introduction to Statistical Concepts and Methods 100
SOCI 20004 Statistical Methods of Research 100
SOCI 20157 Mathematical Models 100
SOCI 30004 Statistical Methods of Research 100
SOSC 20111 Inferential Statistics 100
SOSC 26006 Foundations for Statistical Theory 100
SOSC 26009 Introductory Statistical Methods 100
STAT 22000 Statistical Methods and Applications 100
STAT 23400 Statistical Models and Methods 100

Advanced Skills
Two courses; or three courses if a Basic Skills course has already been completed for the student’s major.

CHDV 30102 Introduction to Causal Inference 100
CHDV 32411 Mediation, Moderation, and Spillover Effects 100
ECMA 31000 Introduction to Empirical Analysis 100
ECMA 31130 Topics in Microeconometrics 100
ECMA 31340 Big Data Tools in Economics 100
ECON 21020 Econometrics 100
ECON 21300 Econometrics - Honors 100
ECON 21300 Data Construction and Interpretation in Economic Applications 100
ECON 21410 Computational Methods in Economics 100
ECON 21800 Experimental Economics 100
MACS 31300 AI Applications in the Social Sciences 100
PBHS 30910 Epidemiology and Population Health 100
PBHS 32400 Applied Regression Analysis 100
PBHS 32600 Analysis of Categorical Data 100
PBHS 32700 Biostatistical Methods 100
PBHS 32901 Introduction to Clinical Trials 100
PBHS 33300 Applied Longitudinal Data Analysis 100
PBHS 33500 Statistical Applications 100
PBHS 34500 Machine Learning for Public Health 100
PBPL 28430 International Trade, Banking and Capital Markets 100
PBPL 28550 Methods of Data Collection: Social Experiments, Quasi-Experiments and Surveys 100
PBPL 28820 Machine Learning and Policy 100
PLSC 30700 Introduction to Linear Models 100
PPHA 30545 Machine Learning - R Programming 100
SOCI 20112 Applications of Hierarchical Linear Models 100
SOCI 20253 Introduction to Spatial Data Science 100
SOCI 30005 Statistical Methods of Research II 100
SOSC 26007 Overview of Quantitative Methods in the Social and Behavioral Sciences 100
SOSC 36008 Principles and Methods of Measurement 100
STAT 22600 Analysis of Categorical Data 100
STAT 24400 Statistical Theory and Methods I 100
STAT 24500 Statistical Theory and Methods II 100
STAT 35920 Applied Bayesian Modeling and Inference 100
Quantitative Applications

Two courses

ECMA 36700 Economics of Education 100
ECON 23410 Economic Growth 100
ECON 24000 Labor Economics 100
ECON 24450 Inequality and the Social Safety Net: Theory, Empirics, and Policies 100
ECON 24720 Inequality: Origins, Dimensions, and Policy 100
ECON 25000 Introduction To Finance 100
ECON 25100 Financial Economics; Speculative Markets 100
ECON 26010 Public Finance 100
ECON 26730 Global Energy & Climate Challenge: Economics, Science & Policy 100
ECON 26800 Energy and Energy Policy 100
ECON 27000 International Economics 100
ECON 27720 Economics and Regulation of Health Care Markets: Theory and Empirics 100
ECON 28000 Industrial Organization 100
ECON 28060 The Economics of Organizations: An Experimental Perspective 100
ECON 28100 The Economics of Sports 100
ECON 28700 The Economics of Crime 100
ECON 31750 Topics on the Analysis of Randomized Experiments 100
ECON 35550 The Practicalities of Running Randomized Control Trials 100
ENST 26530 Environment, Agriculture, and Food: Economic and Policy Analysis 100
PBHS 35100 Health Services Research Methods 100
PBPL 28350 Education and Economic Development 100
PBPL 28375 Political Economy of Development 100
PBPL 28425 Strategic Behavior and Regulation of Firms 100
PBPL 28538 Political Economy of Natural Resources 100
PBPL 28765 The Politics of Authoritarian Regimes 100
PBPL 28829 Artificial Intelligence for Public Policy 100
PLSC 22400 Public Opinion 100
PLSC 23501 International Political Economy 100
PLSC 31510 Introduction to Text as Data for Social Science 100
PPHA 38520 GIS Applications in the Social Sciences 100
PSYC 26010 Big Data in the Psychological Sciences 100
SOCI 20103 Social Stratification 100
SOCI 20122 Introduction to Population 100
SOCI 20192 The Effects of Schooling 100
SOCI 20263 Human Migration 100
SOCI 20264 Wealth 100
SOCI 20275 Sociology of Health and Aging 100

Approved, eligible courses for the Education and Society minor will be listed each year on the Quantitative Social Analysis minor website (https://voices.uchicago.edu/qrmeth/the-minor-in-quantitative-social-analysis/).

ADVISING AND GRADING

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

College students majoring in any field may complete the minor in Quantitative Social Analysis. Students who elect the minor program in Quantitative Social Analysis must contact the program administrator before the end of Spring Quarter of their third year to declare their intention to complete the minor. The program administrator must submit approval on the Consent to Complete a Minor Program (https://humanities-web.s3-us-east-2.amazonaws.com/college-prod/s3fs-public/documents/Consent_Minor_Program.pdf) form provided by the College for the minor to the student’s College adviser by the Spring Quarter of the student’s third year.
Subscribe to our mailing list (http://eepurl.com/hKbO-L/) for emails and updates.