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>
</tr>
</thead>
<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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</tbody>
</table>

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.

- CHDV 20101 Applied Statistics in Human Development Research 100
- ECON 21010 Statistical Methods in Economics 100
- GISC 28702 Introduction to GIS and Spatial Analysis 100
### 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 21030
Econometrics - Honors 100

### ECON 21300
Data Construction and Interpretation in Economic Applications 100

### ECON 21410
Computational Methods in 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

### PPHE 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
### Approved Courses

**Quantitative Applications**

**Two courses**

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

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.