MINOR IN QUANTITATIVE METHODS
Department of Sociology

Quantitative research has become the dominant paradigm in the field for the investigation of sociological topics. Those intending to conduct research in the field need to have the statistical/methodological tools at their disposal to accomplish this task. The minor in quantitative methods is designed to give students a solid grounding in the spectrum of statistical techniques that are most frequently used in sociology, including analysis of variance, linear regression, regression with limited dependent variables, structural equation modeling, advanced demographic techniques, and similar topics. In addition to these topics taught within the department, students are encouraged to seek similar coursework outside the department, particularly in the departments of applied statistics and psychology. Students attaining this minor should be able to be knowledgeable users of basic and advanced statistical techniques in their own research. Moreover, they should have the skills to teach courses in quantitative methods at the undergraduate or beginning graduate level, as well as to serve as statistical resource people for faculty and students, at their own institutions.

Requirements for the Minor

The following points outline the requirements for completion of a doctoral-level minor in quantitative methods at BGSU:

- Students pursuing the minor in quantitative methods must have a total of 18 credit hours (i.e., six three-credit courses), with a grade average of 3.167 across all six courses.

- Should the student fail to achieve at least a 3.167 average in coursework for the minor, he or she must take additional courses until this average is reached.

- As doctoral students must all take SOC 6100 (statistical techniques and applications in sociology), SOC 6110 (intermediate methods), SOC 6120 (intermediate statistics), and SOC 7130 (research design) as part of their normal program, completing the minor typically involves taking three courses at the advanced level, **beyond** these requirements. (In that the material in SOC 6100 is taught again but with much more depth and rigor in SOC 6120, SOC 6100 does not count as one of the 6 courses for the quantitative minor.)

- Students entering the doctoral program whose master's degrees are from another university, and whose prior coursework is accepted in lieu of SOC 6100, SOC 6110 and/or SOC 6120 will have to take SOC 7130 as part of their doctoral program (even if they have already had an equivalent course at another school). They can then satisfy the minor with another three courses, just as if they had taken SOC 6110 and SOC 6120 at BGSU.

- Students are encouraged to take statistics/methods courses from other departments on campus. Any course from another department that the student wishes to have count toward the minor, however, must be approved by the quantitative methods committee before it can be credited toward the minor. Exceptions are the pre-approved courses listed below.

Courses Pre-Approved for the Minor
- SOC 7190: Structural Equation Modeling
- SOC 7190: Regression With Limited Dependent Variables
- SOC 7190: Longitudinal Data Analysis
- SOC 7200: Demographic Techniques II
- SOC 7160: Advanced Studies in Methodology (Experimental Design and Analysis)
- MATH 5410: Probability and Statistics I
- MATH 5420: Probability and Statistics II
- STAT 5020: Regression Analysis
- STAT 6300: Applied Multivariate Analysis
- STAT 6340: Discrete Data Analysis
- PSYC 7610: Psychological Measurement I.
- PSYC 7620: Psychological Measurement II.

Application Procedure for Approval of Additional Courses for the Minor
Students wishing to have courses taught outside of the department considered for approval for quantitative minor credit must apply in writing to Alfred DeMaris, Chair of the Quantitative Methods Committee. A syllabus for the proposed course must accompany this application. The application will then be considered by the committee. In order for a course to be approved, it must meet the following requirements.

The course must either be:

(a) A mathematically rigorous, in-depth treatment of conventional topics (e.g., probability, inference, linear models) as exemplified by STAT 5020, MATH 5410, or MATH 5420;

Or

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(b) Have no more than 50% overlap in topic coverage with the corpus of material taught in SOC 6100, SOC 6110, SOC 6120, and SOC 7130 **and** have some combination of exams and individual research projects that altogether count for at least 30% of the grade. Hence, a class with no exams but an individual research project worth 30% of the grade satisfies this requirement, as does a class with an exam worth 15% and an individual research project worth 15%, as does a class with no project but having an exam worth 30% of the grade.

These are minimum requirements for approval of a course. However, ultimate discretion concerning course approval rests with the committee.

Faculty in Quantitative Methods

- John Boman, Associate Professor
  PhD, 2013—University of Florida
  Life-course Criminology; Peers and Friends; Substance Use; Energy Production and Crime

- Susan Brown, Distinguished Professor
  PhD, 1998--Pennsylvania State University
  Family demography; family formation and dissolution; cohabitation; fertility

- Stephen Demuth, Associate Professor
  PhD, 2000--Pennsylvania State University
  Social Responses to Crime; Criminology; Race and Ethnicity; Research Methods

- Lin, I-Fen, Professor
  PhD, 1997--University of Wisconsin
  Aging and life course; kinship and intergenerational exchange; family caregiving; discordance in parents' and children's reports; social policies for families and children

- Thomas J. Mowen, Associate Professor
  PhD, 2015—University of Delaware
  Life-course Criminology; Reentry; School Security; Punishment

- Gary Oates, Associate Professor
  PhD, 1993—University of Maryland, College Park
  Reciprocal relationships among indicators of mental & physical health, achievement, and psycho-social coping resources and stressors; connections to race and race-related structural phenomena