Dual Master's Degree Program in Economics and Statistics

Rationale

Recent years have witnessed an increasing demand for people with skills in both statistical and economic analysis. In this information age, the ever increasing power of computing enables economists to handle more complicated statistical models and improve their ability for policy analysis and forecasting. Consequently, skills in solving complicated statistical problems have become more desirable for many academic and applied economists. At the same time the demand for statisticians has surged in industry, especially in pharmaceuticals and telecommunications. For many industrial statisticians, knowledge of economics is vital for formulating statistical questions concerning subjects such as cost-efficient design for drug testing and demand for new products for internet service. Given the development of the market for these skills, our students' career opportunities will be considerably enhanced if they are equipped with knowledge in both economics and statistics.

General Information

The Departments of Economics and Statistics offer select students the option of obtaining both an M.S. degree in statistics and an M.A. degree in economics within an integrated program. Students may obtain both degrees with 48 credit hours of course work instead of the 52 or more hours required for separate degrees.

Minimum requirements for acceptance into the dual master's program include three semesters of calculus, intermediate microeconomic theory (Econ 7351), intermediate macroeconomic theory (Econ 7353), and one or more semesters of mathematical statistics (Stat 7710, 7750 or 7760). Under exceptional circumstances, students with more limited training may be accepted into the program and required to undertake remedial instruction.

General requirements:

At least 48 hours of coursework numbered 7000 or higher at the University of Missouri-Columbia or equivalent. (These 48 hours may not include Economics 7351, 7353, and Statistics 7510, 7530, or 7710.)

Eighteen or more hours from the Department of Economics. At least 15 hours must be numbered 8000 or higher with no more than three hours of 8085 or 8090. Students must take the core economics courses 8451, 8453, and 8473, and research workshop 8413. 8451 may be replaced by 9451, 8453 by 9453, and 8473 by 9473, for students who satisfy the prerequisites of these 9000 level classes.

Eighteen or more hours from the Department of Statistics. At least 15 hours must be numbered 8000 or higher with no more than three hours of 8085 or 8090. Credit will be

given for only three of Statistics 7540, 8310, 8320 and 9310. Statistics 8710 and 8720 and Mathematics 7140 are required if equivalent courses were not taken as an undergraduate.

All candidates must submit a thesis or written project demonstrating an independent effort towards producing original work satisfactory for each degree. The candidate may complete a separate thesis/project for both economics and statistics or a single joint thesis/project satisfying both requirements.

All candidates are required to present an open seminar on the results of the thesis/project and satisfactorily complete an oral examination, which may cover the written report, seminar, and course work.

Each candidate will select two co-advisors, one from economics and one from statistics and at least one additional committee member from each department. The candidate may select separate committees, one from each department, or a joint committee consisting of two members from economics and two from statistics.

Up to eight hours of transfer credit may be applied as follows: to one of the two degree programs, or divided between the two degree programs. The eight hours of transfer credit cannot be applied to each degree program separately.

Suggested courses. Students may choose from a variety of courses including the following from economics and statistics.

Economics
7311 Labor Economics
7312 Labor Market Analysis
7315 Public Economics
7316 State and Local Finance
7320 History of Economic Thought
7322 Economics of Regulation and Antitrust
7325 The International Monetary System
7326 Economics of International Trade
7329 The Banking System and the Money Market
7355 Industrial Organization
7360 Economic Development
7367 Law and Economics
7368 Macroeconomic Forecasting
7370 Quantitative Economics
7371 Introductory Econometrics
7775 Dynamic Optimization and Its Applications to the Natural Sciences and Economics
8001 Topics in Economics
8085/8090 Problems/Research

Any 9000-level course (excluding 9413, 9090 and 9480) for students who satisfy the prerequisites of these 9000-level classes

Statistics
7110 Statistical Software and Data Analysis
7250 Quality Control
7310 Sampling Techniques
7810 Nonparametric Methods
7830 Categorical Data Analysis
7870 Applied Time Series Analysis
8310 Data Analysis I
8320 Data Analysis II
8370 Statistical Consulting
9210 Bayesian Statistics
9310 Theory of Linear Models
9320 Advanced Linear Models
9370 Multivariate Analysis
9410 Reliability Theory & Survival Analysis

Application Procedure

Applicants to the Dual Master's program must submit formal applications for admission to master's program in both the Department of Economics and Department of Statistics, but they submit a single University of Missouri application. Students currently enrolled in either an economics or statistics master's program may apply for the dual program before the end of the second semester at MU.