

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 selected 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 four hours of 8085 or 8090. Students must take the core economics courses 8451 and 8453, and research workshop 8413 (2 credit hours).

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.

The following courses are required if equivalent courses were not taken as an undergraduate: Statistics 7750, 7760 and Mathematics 7140.

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 can choose from a variety of courses including the following from economics and statistics.

Economics (other than 8451, 8453, and 8413)

7368 Macroeconomic Forecasting

7370 Introduction to Quantitative Economics

7371 Applied Econometrics

8472 Econometric Methods I

9473 Econometric Methods II

9475 Applied Microeconometrics

9476 Applied Time Series Analysis

8085/8090 Problems/Research

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. Applications received by January 1 receive fullest consideration for admission and financial aid for the following fall. 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.