Statistics Minor

"While completing my Statistics minor, I have had the opportunity to see wonderful applications of mathematics within the discipline of Statistics, as well as encountering various interesting problems that naturally arise in the field of statistics. - Chris Frayer, Mathematics Major

Why the Statistics Minor?

"An understanding of statistical principles and how to apply them correctly is essential for success in today's marketplace." - John H. Phillips, Engineering Senior, Environmental Quality Office, Ford Motor Company

With rapid technological change comes the need for accurate and efficient processing of large quantities of information. Statistics is a collection of principles and techniques for collecting and effectively processing information.

Where can you use the Statistics Minor?

The Statistics minor provides you with the necessary skills to develop models to seek solutions to society's most pressing problems. Examples include:

- predicting population growth,
- forecasting economic and business trends,
- examining cause and effect in the behavioral sciences,
- analyzing the efficacy of a new drug treatment,
- monitoring and controlling the quality of a manufacturing process,
- assessing public opinions on social problems, and
- quantifying the effects of environmental pollution.

In fact, any discipline that employs the scientific method in the decision-making process can benefit from the application of statistical principles.

What will you learn?

You will receive instruction and experience in the theory and application of statistical methods. You will improve your oral and written communication skills through instruction by and interaction with the Statistics faculty.

The Statistics minor is a calculus based program that focuses on the theory of statistics. The Statistics minor requires 22 hours, as follows:

All minors must complete the following core courses:

STA 312	Probability and Statistics
STA 216	Intermediate Applied Statistics
STA 412	Mathematical Statistics I
MTH 201	Calculus and Analytical Geometry I
MTH 202	Calculus and Analytical Geometry II

All minors must choose one additional course in consultation with a Statistics faculty member from among the following list:

STA 310	Introduction to Biostatistics
STA 311	Introduction to Survey Sampling

STA 314	Statistical Quality Methods
STA 315	Design of Experiments
STA 317	Nonparametric Statistical Analysis
STA 415	Mathematical Statistics II
STA 416	Multivariate Data Analysis
STA 421	Bayesian Data Analysis

Statistics Course Listings that Count Towards the Minor

STA 216 Intermediate Applied Statistics - Project-oriented introduction to major statistical techniques using a statistical package such as SAS or SPSS.

STA 310 Introduction to Biostatistics - An introduction to the statistical methods commonly encountered in medical, biological, and health science problems using a statistical package.

STA 311 Introduction to Survey Sampling - A project-oriented overview of topics related to survey sampling.

STA 312 Probability and Statistics - Introduction to the basic concepts of probability and statistics using calculus.

STA 314 Statistical Quality Methods - Statistical techniques applicable to problems of product quality.

STA 315 Design of Experiments - Application-oriented overview of designed experiments.

STA 317 Nonparametric Statistical Analysis - Applied statistical analysis when the distributions of the populations are unknown.

STA 318 Statistical Computing - A detailed study of the advanced features of major statistical packages used in statistical computing.

STA 319 Statistics Project - Students will learn a systematic approach to statistical consulting.

STA 321 Applied Regression Analysis - Multivariate regression analysis with emphasis on application using a statistical software package.

STA 412 Mathematical Statistics I - A theoretical study of selected statistical topics.

STA 415 Mathematical Statistics II (capstone) - Continued theoretical study of statistical topics.

STA 416 Multivariate Data Analysis - Multivariate analysis with emphasis on application using a statistical package.

Click on Course List under Curriculum on the Statistics Department webpage for further information on the courses offered by the department.

FOR MORE INFORMATION WRITE OR TELEPHONE

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