

# STATISTICS MAJOR

*“The statistics major has really opened a lot of doors for me. Employers are interested in finding people who can think analytically and communicate their findings to a non-technical audience.”*

Kristin Vaughn (Rench), graduate in Statistics

Statistics majors have a wide variety of opportunities in government, industry, and education. Statisticians are specialists, but statistics by its nature demands that they be generalists also. Statistics uses mathematics, but it is not abstract or isolated: statisticians work with people from other professional backgrounds to solve practical problems.

## *Are You a Future Statistician?*

Do you like mathematics and computing? Do you want to use your quantitative skills to solve practical problems? Do you like to collaborate with others in team efforts? Do you like the challenge of constantly learning new things and tackling new problems? If so, you may be a future statistician.

The major in Statistics is a calculus-based program that focuses on the theory and application of statistics. The major requirements are:

1. 23 core credits—STA 215, 216, 311, 315, 319, 412, 415
2. 6 elective credits from among STA 310, 314, 317, 318, 321
3. 16 cognate credits—MTH 201, 202, 227 (Linear Algebra I), and CS 162 (Computer Science I),
4. 6 application cognate credits.

## **Undergraduate Statistics Course Listings that count towards the major**

STA 215 Introductory Applied Statistics - A technique-oriented approach to statistical problems with emphasis on applications.

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 313 Probability and Stochastic Processes - Introduction to probability and stochastic processes for engineering applications.

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 a more complete description of the courses offered by the department.

**FOR MORE INFORMATION CONTACT:**

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