Applied Statistics, B.S.

The Bachelor of Science in Applied Statistics seeks to provide students with a solid foundation in all aspects of statistical analysis; including programming, data analysis and oral and written communication skills. This degree program is designed to attract students who wish to use logic, reasoning, and analytic skills in conjunction with statistical knowledge to pursue jobs as statisticians, data analysts and data scientists.

Students must earn a grade of 'C' or better in all major and cognate courses, including MATH 160, MATH 161 and STAT 201/STAT 201L.

Student Learning Outcomes

Graduates of the Applied Statistics program will be able to:

Use statistical reasoning to formulate a problem in statistical terms and perform exploratory analysis of data.
Critically evaluate the strengths and weaknesses of study designs and select a study design that is appropriate for addressing a specific research question.
Analyze data by appropriately fitting, assessing, and interpreting a variety of statistical models.
Demonstrate the ability to communicate the results of statistical analysis to both technical and non-technical audiences.

Degree Requirements (120 credits)

Core Curriculum Requirements

Core Curriculum (38-40 Total Credit Hours)

Graduation Requirements

Graduation Requirements (3-6+ Credits) *

Foundation Courses (14-18 Credits)

Complete the following courses:

MATH 160 - Calculus I (4 credits) * OR
MATH 160A - Calculus I A (2 credits) AND
MATH 160B - Calculus I B (2 credits)
MATH 161 - Calculus II (4 credits) OR
MATH 161A - Calculus II A (2 credits) AND
MATH 161B - Calculus II B (2 credits)
STAT 201 - Elementary Statistics (3 credits) AND *
STAT 201L - Elementary Statistics Computer Laboratory (1 credit) *

Choose two additional courses:

Two science courses from either BIOL, CHEM, GEOL, MSCI, or PHYS with course numbers greater than 109.

Note:

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* Course credit hours only count once toward the total university graduation credit hour requirements. Click on Credit Sharing for more information.

Major Requirements (52 Credits)

Complete the following courses:

CSCI 135 - Introduction to Programming (3 credits)
CSCI 225 - Introduction to Relational Database and SQL (3 credits)
MATH 260 - Calculus III (4 credits)
MATH 344 - Linear Algebra (3 credits)
MATH 490 - Seminar in Mathematics ~~(3 credits)~~ (1 credit)
STAT 390 – Case Studies in Statistics (2 credits) – added
STAT 316 - Experimental Design I (3 credits)
STAT 318 - Applied Statistical Methods (3 credits)
STAT 320 - Experimental Design II (3 credits)
STAT 412 - Statistical Inference I (3 credits)
STAT 413 - Statistical Inference II (3 credits)

Choose two courses from the following:

STAT 414 - Time Series Analysis (3 credits)

[STAT 415 - Introduction to Bayesian Statistics (3 credits)](#)
[STAT 420 - Statistical Computing (3 credits)](#)
Choose four courses from the following:

STAT courses numbered 300 or above

Cognate Requirement (9 credits)

Applied statistics majors will select an interdisciplinary cognate of upper level courses numbered 300 or above with the approval of their faculty adviser. A grade of 'C' better is required in each course to be applied toward the cognate. A minor will fulfill this requirement.

Electives (0-19 Credits)

Total Credits Required: 120 Credits