STATISTICS MAJOR (B.S.)

https://ceps.unh.edu/mathematics-statistics/program/bs/statistics

Description

This program prepares students for employment and/or graduate study in a variety of fields and research specializations in which statistical analysis and its applications play a critical role. In addition to its degree programs, the department has an active interest in the actuarial profession. Those interested in actuarial science should seek the advice of departmental coordinator of the actuarial program.

Requirements

Degree Requirements

Minimum Credit Requirement: 128 credits

Minimum Residency Requirement: 32 credits must be taken at UNH

Minimum GPA: 2.0 required for conferral*

Core Curriculum Required: Discovery & Writing Program Requirements

Foreign Language Requirement: No

All Major, Option and Elective Requirements as indicated.
**Major GPA requirements as indicated.*

Major Requirements

In all courses used to satisfy the requirements for its major programs, the Department of Mathematics and Statistics requires that a student earn a grade of C- or better and have an overall grade-point average of at least 2.00 in these courses.

Code	Title	Credits
Required Courses		
MATH 425	Calculus I	4
MATH 426	Calculus II	4
MATH 445	Mathematics and Applications with MATLAB	4
or CS 410P	Introduction to Scientific Programming/Python	
or CS 410C	Introduction to Scientific Programming/C	
MATH 527	Differential Equations with Linear Algebra [1]	4
MATH 528	Multidimensional Calculus [1]	4
MATH 531	Mathematical Proof	4
MATH 539	Introduction to Statistical Analysis	4
MATH 645	Linear Algebra for Applications [1]	4
MATH 739	Applied Regression Analysis	4
MATH 755	Probability with Applications	4
MATH 756	Principles of Statistical Inference	4
Electives: Select TWO approved MATH electives, in consultation with the major advisor (at least one at the 700-level)		8
Select THREE courses from the following:		12
MATH 734	Statistical Computing	
MATH 736	Advanced Statistical Modeling	
MATH 737	Statistical Methods for Quality Improvement and Design	
MATH 740	Design of Experiments I	
MATH 741	Survival Analysis	
MATH 743	Time Series Analysis	
MATH 744	Design of Experiments II	
Capstone		
Select one course from the following:		4
MATH 797	Senior Seminar	
MATH 798	Senior Project	
MATH 799	Senior Thesis	
Total Credits		**68**

[1] The full Linearity sequence, MATH 525 and MATH 526, may be used to replace the MATH 527, MATH 528, and MATH 645 requirements. MATH 525 may be used to replace the MATH 645 requirement.

Degree Plan

Sample Degree Plan

This sample degree plan serves as a general guide; students collaborate with their academic advisor to develop a personalized degree plan to meet their academic goals and program requirements.

First Year		
Fall		**Credits**
MATH 425	Calculus I	4
Discovery Course		4
Discovery Course		4
Inquiry Course		4
MATH 400	Freshman Seminar	1
	Credits	**17**
Spring		
MATH 426	Calculus II	4
MATH 445 or CS 410C or CS 410P	Mathematics and Applications with MATLAB or Introduction to Scientific Programming/C or Introduction to Scientific Programming/Python	4
ENGL 401	First-Year Writing	4
Discovery Course		4
	Credits	**16**
Second Year		
Fall		
MATH 528	Multidimensional Calculus	4
MATH 531	Mathematical Proof	4
Discovery Course		4
Discovery Course		4
	Credits	**16**
Spring		
MATH 527	Differential Equations with Linear Algebra	4
MATH 539	Introduction to Statistical Analysis	4
Discovery Course		4
Writing Intensive Course		4
	Credits	**16**
Third Year		
Fall		
MATH 645	Linear Algebra for Applications	4
MATH 739	Applied Regression Analysis	4
700-level MATH Elective Course		4
Discovery Course		4
	Credits	**16**

Spring		
700-level MATH Elective Course		4
700-level MATH Elective Course		4
Elective Course		4
Writing Intensive Course		4
	Credits	**16**
Fourth Year		
Fall		
MATH 755	Probability with Applications	4
MATH 797 or MATH 798 or MATH 799	Senior Seminar or Senior Project or Senior Thesis	4
700-level MATH Elective Course		4
Elective Course		4
	Credits	**16**
Spring		
MATH 756	Principles of Statistical Inference	4
MATH Elective Course		4
Elective Course		4
Elective Course		4
	Credits	**16**
	Total Credits	**129**

Student Learning Outcomes

Program Learning Outcomes

- Communicate theoretical foundations and principles of intermediate-level statistics to diverse audiences.
- Design an appropriate method of data collection for a variety of practical applications.
- Perform analyses using the established tools of applied statistics, including production of appropriate software output and its interpretation.