MATHEMATICS MAJOR (B.A.)

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

Description

The bachelor of arts degree with the mathematics major may offer a broader liberal arts program than the bachelor of science degree programs. By a careful selection of electives, students can shape this major into a preparation for graduate school, business, or industry.

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: Yes

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 545	Introduction to Linear Algebra [1]	4
or MATH 645	Linear Algebra for Applications	
MATH 761	Abstract Algebra	4
MATH 767	One-Dimensional Real Analysis	4
THREE additional approved MATH courses (selected in consultation with the academic advisor)		12
Capstone		
Select one of the following:		4
MATH 797	Senior Seminar	
MATH 799	Senior Thesis	
Other Required Courses		
Foreign language requirement as defined by the University for all B.A. degrees.		
Total Credits		**56**

[1] The full Linearity sequence, MATH 525 and MATH 526, may be used to replace the MATH 527, MATH 528, and MATH 545 / MATH 645 requirements.

MATH 525 may be used to replace the MATH 545 or 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
Language 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
Language Course		4
	Credits	**16**

Second Year

Fall		
MATH 528	Multidimensional Calculus	4
MATH 539	Introduction to Statistical Analysis	4
Discovery Course		4
Discovery Course		4
	Credits	**16**
Spring		
MATH 527	Differential Equations with Linear Algebra	4
MATH 531	Mathematical Proof	4
Discovery Course		4
Discovery Course		4
	Credits	**16**

Third Year

Fall		
MATH 545 or MATH 645	Introduction to Linear Algebra or Linear Algebra for Applications	4
MATH 761	Abstract Algebra	4
Discovery Course		4
Writing Intensive Course		4
	Credits	**16**
Spring		
MATH 767	One-Dimensional Real Analysis	4
MATH Elective Course		4

Discovery Course		4
Writing Intensive Course		4
	Credits	**16**
Fourth Year		
Fall		
MATH 797 or MATH 799	Senior Seminar or Senior Thesis	4
MATH Elective Course		4
Elective Course		4
Elective Course		4
	Credits	**16**
Spring		
MATH Elective Course		4
Elective Course		4
Elective Course		4
Elective Course		4
	Credits	**16**
	Total Credits	**129**

Student Learning Outcomes

Program Learning Outcomes

- Students can explain core concepts from a range of different branches of mathematics, including analysis, algebra, calculus and statistics.
- Students can correctly interpret mathematical definitions and construct simple proofs which use definitions and logical arguments to establish properties of mathematical objects.
- Students are aware that mathematical objects may have multiple representations and are able to select representations which clarify problems and simplify calculations.
- Students can recognize valid and invalid mathematical arguments.