

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	Mathematics and Applications with MATLAB	4
or CS 410C	or Introduction to Scientific Programming/C	
or CS 410P	or Introduction to Scientific Programming/Python	
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	Introduction to Linear Algebra	4
or MATH 645	or Linear Algebra for Applications	
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 Senior Seminar or MATH 799 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.