APPLIED MATHEMATICS MAJOR: ECONOMICS OPTION (B.S.)

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

Description

This degree program prepares students for employment and/or graduate study in a variety of fields and research specializations in which mathematics plays a critical role in the solution of important scientific and technological problems.

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 IAM 550	Introduction to Engineering Computing	
MATH 527	Differential Equations with Linear Algebra [1]	4
MATH 528	Multidimensional Calculus [1]	4
MATH 531	Mathematical Proof	4
MATH 644	Statistics for Engineers and Scientists [2]	4
MATH 645	Linear Algebra for Applications [1]	4
MATH 753	Introduction to Numerical Methods I	4
PHYS 407	General Physics I	4
Capstone		
Select one of the following:		4
MATH 797	Senior Seminar	
MATH 798	Senior Project	
MATH 799	Senior Thesis	
Total Credits		**44**

Code	Title	Credits
Economics Option Requirements		
MATH 739	Applied Regression Analysis	4
MATH 755	Probability with Applications	4
ECON 401	Principles of Economics (Macro)	4
ECON 402	Principles of Economics (Micro)	4
ECON 605	Intermediate Microeconomic Analysis	4
ECON 611	Intermediate Macroeconomic Analysis	4
ECON 726	Introduction to Econometrics	4
Electives		
ONE approved MATH elective at the 700-level, selected in consultation with the academic advisor		4
ONE approved ECON or DS elective at the 700-level, selected in consultation with the academic advisor		4
Total Credits		**36**

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.
2. Applied Mathematics: Economics Option students must take MATH 539 Introduction to Statistical Analysis.

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
ECON 401	Principles of Economics (Macro)	4
Discovery Course		4
Inquiry Course		4
MATH 400	Freshman Seminar	1
	Credits	**17**
Spring		
MATH 426	Calculus II	4
MATH 445 or IAM 550	Mathematics and Applications with MATLAB or Introduction to Engineering Computing	4
ECON 402	Principles of Economics (Micro)	4
ENGL 401	First-Year Writing	4
	Credits	**16**
Second Year		
Fall		
MATH 528	Multidimensional Calculus	4
MATH 531	Mathematical Proof	4
PHYS 407	General Physics I	4
ECON 605	Intermediate Microeconomic Analysis	4
	Credits	**16**
Spring		
MATH 527	Differential Equations with Linear Algebra	4
MATH 539	Introduction to Statistical Analysis	4
ECON 611	Intermediate Macroeconomic Analysis	4
Discovery Course		4
	Credits	**16**

Third Year		
Fall		
MATH 645	Linear Algebra for Applications	4
MATH 739	Applied Regression Analysis	4
ECON or DS Elective Course		4
Discovery Course		4
	Credits	**16**
Spring		
ECON 726	Introduction to Econometrics	4
700-level MATH Elective Course		4
Discovery Course		4
Writing Intensive Course		4
	Credits	**16**
Fourth Year		
Fall		
MATH 753	Introduction to Numerical Methods I	4
MATH 755	Probability with Applications	4
Discovery Course		4
Elective Course		4
	Credits	**16**
Spring		
MATH 797 or MATH 798 or MATH 799	Senior Seminar or Senior Project or Senior Thesis	4
Writing Intensive Course		4
Elective Course		4
Elective Course		4
	Credits	**16**
	Total Credits	**129**

Student Learning Outcomes

Program Learning Outcomes

- Students recognize common mathematical notations and operations used in mathematics, science and engineering.
- Students can recognize and classify a variety of mathematical models including differential equations, linear and nonlinear systems of algebraic equations, and common probability distributions.
- Students have developed a working knowledge (including notation, terminology, foundational principles of the discipline, and standard mathematical models within the discipline) in at least one discipline outside of mathematics.
- Students are able to extract useful knowledge, both quantitative and qualitative, from mathematical models and can apply that knowledge to the relevant discipline.