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

 ${\color{blue} \underline{https://ceps.unh.edu/mathematics-statistics/program/bs/applied-mathematics-economics-option}}$ 

#### 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		
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 <sup>1</sup>	4		
MATH 528	Multidimensional Calculus <sup>1</sup>	4		
MATH 531	Mathematical Proof	4		
MATH 644	Statistics for Engineers and Scientists <sup>2</sup>	4		
MATH 645	Linear Algebra for Applications <sup>1</sup>	4		
MATH 753	Introduction to Numerical Methods I	4		
PHYS 407	General Physics I	4		
Capstone: Select one of the following				
MATH 797	Senior Seminar	4		
MATH 798	Senior Project	4		
MATH 799	Senior Thesis	2 or		
		4		
Total Credits		50-52		

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.

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

## **Economics Option Requirements**

Code	Title	Credits
MATH 739	Applied Regression Analysis	4
MATH 755	Probability with Applications	4
ONE approved MATH electiv	e at the 700-level, selected in consultation with the academic advisor	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
ONE approved ECON or DS elective at the 700-level, selected in consultation with the academic advisor		
Total Credits		36

# Degree Plan

**ECON or DS Elective Course** 

Discovery Course		2
	Credits	16
Spring		
ECON 726	Introduction to Econometrics	2
700-level MATH Elective Course		2
Discovery Course		2
Writing Intensive	Course	2
	Credits	16
Fourth Year		
Fall		
MATH 753	Introduction to Numerical Methods I	2
MATH 755	Probability with Applications	2
Discovery Course		2
Elective Course		2
	Credits	16
Spring		
MATH 797	Senior Seminar	2
or MATH 798	or Senior Project	
or MATH 799	or Senior Thesis	
Writing Intensive Course		2
Elective Course		2
Elective Course		2
	Credits	16
	Total Credits	129

# **Student 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.