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

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 425</td>
<td>Calculus I</td>
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<tr>
<td>MATH 426</td>
<td>Calculus II</td>
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<tr>
<td>MATH 445</td>
<td>Mathematics and Applications with MATLAB</td>
<td>4</td>
</tr>
<tr>
<td>or IAM 550</td>
<td>Introduction to Engineering Computing</td>
<td>4</td>
</tr>
<tr>
<td>MATH 527</td>
<td>Differential Equations with Linear Algebra</td>
<td>4</td>
</tr>
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<td>MATH 528</td>
<td>Multidimensional Calculus</td>
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<td>MATH 531</td>
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<tr>
<td>MATH 753</td>
<td>Introduction to Numerical Methods I</td>
<td>4</td>
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<tr>
<td>PHYS 407</td>
<td>General Physics I</td>
<td>4</td>
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<td>CS 415</td>
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<td>CS 420</td>
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<td>CS 515</td>
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<td>CS 659</td>
<td>Introduction to the Theory of Computation</td>
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<td>CS 758</td>
<td>Algorithms</td>
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<td>IAM 751</td>
<td>Introduction to High-Performance Computing</td>
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Total Credits 50-52

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

Computation Option Requirements

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Total Credits 40

Degree Plan

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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.
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<td><strong>Total Credits</strong></td>
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</table>

**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.