Beginning in the 2022/23 academic year, the Applied Mathematics Major: Fluid Dynamics option will no longer be accepting new students. Current students will continue to have access to the same high-quality education and resources until they graduate.

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.

### Degree Plan

#### First Year

**Fall**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 425</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 407</td>
<td>General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>Discovery Course</td>
<td></td>
<td>4</td>
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<tr>
<td>MATH 400</td>
<td>Freshman Seminar</td>
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</table>

**Credits**: 17

**Spring**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 426</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 445 or IAM 550</td>
<td>Mathematics and Applications with MATLAB or Introduction to Engineering Computing</td>
<td>4</td>
</tr>
<tr>
<td>MATH 608</td>
<td>General Physics II</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 401</td>
<td>First-Year Writing</td>
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</table>

**Credits**: 16

#### Second Year

**Fall**

<table>
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<th>Code</th>
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<tbody>
<tr>
<td>MATH 528</td>
<td>Multidimensional Calculus</td>
<td>4</td>
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<tr>
<td>MATH 644</td>
<td>Statistics for Engineers and Scientists</td>
<td>4</td>
</tr>
<tr>
<td>ME 525</td>
<td>Statics</td>
<td>4</td>
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<tr>
<td>Discovery Course</td>
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</tbody>
</table>

**Credits**: 16

**Spring**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 527</td>
<td>Differential Equations with Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 531</td>
<td>Mathematical Proof</td>
<td>4</td>
</tr>
<tr>
<td>MATH 645</td>
<td>Linear Algebra for Applications 1</td>
<td>4</td>
</tr>
<tr>
<td>ME 503</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Credits**: 15
Applied Mathematics Major: Fluid Dynamics Option (B.S.)

Third Year

Fall
MATH 647  Complex Analysis for Applications  4
MATH 745  Foundations of Applied Mathematics I  4
Discovery Course  4
Writing Intensive Course  4
Credits  16

Spring
ME 608  Fluid Dynamics  3
ME 627  Dynamics  3
Discovery Course  4
Writing Intensive Course  4
Credits  18

Fourth Year

Fall
MATH 753  Introduction to Numerical Methods I  4
ME 707  Analytical Fluid Dynamics  4
Writing Intensive Course  4
Elective Course  4
Credits  16

Spring
MATH 797  or MATH 798  or MATH 799
Senior Seminar
or Senior Project
or Senior Thesis
700-level ME Elective Course  4
Elective Course  4
Elective Course  4
Credits  16

Total Credits  130

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.