APPLIED MATHEMATICS (BS)

Students earning a B.S. in Applied Mathematics will acquire foundational knowledge in the field, as well as competency in the critical thinking, technological, and communication skills necessary for its application. Applied math is a dynamic discipline with applications to many fields, including Systems Biology, Data Mining and Data Privacy, Materials Science, Computer Animation and Digital Imaging, Finance and Economics, Ecology, Epidemiology, and Climatology, among others.

Curriculum
(Effective Fall 2023)

AP Credit Policies (https://catalog.luc.edu/undergraduate/arts-sciences/mathematics-statistics/#policiestext)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>Lower Level Course Requirements</td>
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<tr>
<td>MATH 161</td>
<td>Calculus I</td>
<td>4</td>
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<tr>
<td>MATH 162</td>
<td>Calculus II</td>
<td>4</td>
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<tr>
<td>MATH 263</td>
<td>Multivariable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 201</td>
<td>Introduction to Discrete Mathematics &amp; Number Theory</td>
<td>3</td>
</tr>
<tr>
<td>MATH 212</td>
<td>Linear Algebra</td>
<td>3</td>
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<tr>
<td>MATH 215</td>
<td>Object-Oriented Programming with Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 264</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>COMP 231</td>
<td>Data Structures &amp; Algorithms for Informatics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 121 &amp; PHYS 111L</td>
<td>College Physics I Lec/Dis and College Physics Laboratory I</td>
<td>4</td>
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</tbody>
</table>

Additional Science Requirements
Select one of the following: 3

- ANTH 101 Human Origins
- BIOL 101 General Biology I
- BIOL 102 General Biology II
- CHEM 160 Chemical Structure and Properties
- CHEM 180 Chemical Reactivity I
- ENVS 101 The Scientific Basis of Environmental Issues
- PHYS 122 College Phys II Lec/Dis

Probability and Statistics Requirements
Select one of the following: 6

- STAT 203 Introduction to Probability & Statistics
  & STAT 308 and Applied Regression Analysis
- MATH 304 Introduction to Probability
  & MATH 305 and Introduction to Mathematical Statistics

Upper Level Course Requirements

- MATH 309 Numerical Methods                           | 3     |
- MATH 356 Mathematical Modeling                       | 3     |

Electives A
Select two of the following: 6

- MATH 318 Combinatorics
- MATH 331 Cryptography
- MATH 345 / STAT 388 Introduction to Financial Mathematics Derivatives
- MATH 358 Introduction to Optimization
- MATH 360 Introduction to Optimization

Elective B
One elective chosen from any 300-level Math or an approved 300-level Stat course 3

Total Hours 55

Note: 55 total credit hours

College of Arts and Sciences Graduation Requirements

All Undergraduate students in the College of Arts and Sciences are required to take two Writing Intensive courses (6 credit hours) as well as complete a foreign language requirement at 102-level or higher (3 credit hours) or a language competency test. More information can be found here (https://www.luc.edu/cas/college-requirements/).

Additional Undergraduate Graduation Requirements

All Undergraduate students are required to complete the University Core, at least one Engaged Learning course, and UNIV 101. SCPS students are not required to take UNIV 101. You can find more information in the University Requirements (https://catalog.luc.edu/undergraduate/university-requirements/) area.