MATHEMATICS: APPLIED MATHEMATICS , BSLAS

for the degree of Bachelor of Science in Liberal Arts & Sciences Major in Mathematics, Applied Mathematics Concentration

A Major Plan of Study form, declaring concentration and supporting coursework, must be completed and submitted to the LAS Student Academic Affairs Office except for students in the Teaching of Mathematics concentration. Please complete this form with an advisor in the Mathematics Undergraduate Office within 1-2 semesters of completing MATH 347 or MATH 348.

Departmental distinction: Distinction will be awarded on the basis of selection of 400-level courses in mathematics and the grade point average. Graduation with High Distinction or Highest Distinction in Mathematics requires participation in the Program for Distinction in Mathematics or Mathematics Education. Full details are available at the departmental website.

General education: Students must complete the Campus General Education (https://courses.illinois.edu/gened/DEFAULT/DEFAULT/) requirements including the campus general education language requirement.

Minimum required major and supporting course work: Normally equates to 49-52 hours including 27-35 hours of mathematics beyond calculus, 3-4 hours of computer science, and 12 hours of supporting coursework.

Twelve hours of 300- and 400-level non-S/U-graded courses in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 241</td>
<td>Calculus III (Students should have credit for MATH 220/MATH 221 and MATH 231 before enrolling in MATH 241)</td>
<td>4</td>
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<tr>
<td>MATH 347</td>
<td>Fundamental Mathematics</td>
<td>3-4</td>
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or MATH 348

or MATH 416

Abstract Linear Algebra (Students may not receive credit for both MATH 416 and either ASRM 406 or MATH 415) | 3     |

MATH 417

Intro to Abstract Algebra or MATH 427

Honors Abstract Algebra | 3     |

or MATH 424

Honors Real Analysis (If MATH 424 or MATH 447 is completed, a requirement for the Math Doctoral Preparation concentration has been satisfied) | 3     |

or MATH 444

Elementary Real Analysis or MATH 447

Real Variables | 3     |

MATH 461

Probability Theory (If STAT 400 is completed, a requirement for the Data Optimization concentration has been satisfied) or STAT 400

Statistics and Probability I | 3-4   |

CS 101

Intro Computing: Engrg & Sci or CS 124

Introduction to Computer Science I or CS 125

Introduction to Computer Science | 3-4   |

Approved supporting coursework outside Mathematics (Supporting coursework may be completed with 12 advisor-approved hours of a single math-related area outside of MATH/ASRM not used for a major requirement and must include at least one advanced course; ANY minor which is fulfilled with at least 12 hours of courses, including one advanced course, not used for the major nor cross-listed with MATH/ASRM; or any double major or dual degree) | 12    |

Applied Mathematics Courses

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<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 441</td>
<td>Differential Equations</td>
<td>3</td>
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<tr>
<td>MATH 446</td>
<td>Applied Complex Variables or MATH 448</td>
<td>3</td>
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<tr>
<td>CS 357</td>
<td>Numerical Methods I or MATH 442</td>
<td>3</td>
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or MATH 489

Intro Partial Diff Equations or MATH 482

Dynamics & Differential Eqns | 3     |

MATH 412

Graph Theory or MATH 413                              | 3     |

Intro to Combinatorics or MATH 482

Linear Programming | 3     |
One additional 400-level or approved 500-level mathematics course not graded with S/U grading (Courses awarded S/U grades may not be used to fill this requirement)

Total Hours

49-52