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

department website: https://math.illinois.edu/
department faculty: Mathematics Faculty (https://math.illinois.edu/
directory/faculty/)
advising: Math advising (https://math.illinois.edu/academics/
undergraduate-program/undergraduate-advising/) 
overview of college admissions & requirements: Liberal Arts &
Sciences (http://catalog.illinois.edu/schools/las/academic-units/)
college website: https://las.illinois.edu/
email: mathadvising@illinois.edu

Mathematics is a broad discipline that contains a range of areas of
specialization within it. The required core courses provide fundamental
background for mathematics in general. The concentrations allow the
student to broaden this background or begin to specialize. Students must
complete the core courses and a concentration.

An entering student in mathematics should have academic preparation
required for admission to MATH 220 (http://catalog.illinois.edu/search/?P=MATH%20220) during the first semester. Admission to MATH 220 (http://catalog.illinois.edu/search/?P=MATH%20220) requires an acceptable
ALEKS score. A student should attain grades of B in calculus in order to
complete the advanced courses successfully.

Undergraduate programs in Mathematics
Actuarial Science, BSLAS (http://catalog.illinois.edu/undergraduate/las/
actuarial-science-bslas/)
Mathematics, BSLAS (http://catalog.illinois.edu/undergraduate/las/
mathematics-bslas/#text)
Mathematics & Computer Science, BSLAS (http://catalog.illinois.edu/
undergraduate/eng_las/mathematics-computer-science-bslas/)

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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 requirements including the campus general education language
requirement.

Minimum required major and supporting course work: Normally
equates to 46-57 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 in the major must be taken on
this campus.

Minimum hours required for graduation: 120 hours.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Core Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 241</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 347 or MATH 348</td>
<td>Fundamental Mathematics-ACP</td>
<td>3-4</td>
</tr>
<tr>
<td>MATH 416</td>
<td>Abstract Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 417</td>
<td>Intro to Abstract Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 424 or MATH 427</td>
<td>Honors Abstract Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 442 or MATH 444</td>
<td>Elementary Real Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 447</td>
<td>Real Variables</td>
<td></td>
</tr>
<tr>
<td>MATH 461</td>
<td>Probability Theory</td>
<td>3-4</td>
</tr>
<tr>
<td>MATH 482 or STAT 400</td>
<td>Statistics and Probability I</td>
<td></td>
</tr>
<tr>
<td>CS 101 or CS 125</td>
<td>Intro Computing: Engr &amp; Sci</td>
<td>3-4</td>
</tr>
<tr>
<td>Approved supporting coursework or any minor</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Applied Mathematics Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 441</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 446 or MATH 448</td>
<td>Complex Variables</td>
<td>3</td>
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<tr>
<td>CS 357 or MATH 442 or MATH 489</td>
<td>Numerical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 412 or MATH 413</td>
<td>Intro to Combinatorics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 482</td>
<td>Linear Programming</td>
<td>3</td>
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<tr>
<td>One additional 400- or 500-level Math course</td>
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<tr>
<td>Total Hours</td>
<td>49-52</td>
<td></td>
</tr>
</tbody>
</table>

1 Students should have credit for MATH 220/MATH 221
and MATH 231 before enrolling in MATH 241.
2 Beginning in Fall 2012, students may not receive credit for
both MATH 416 and either ASRM 406(formerly MATH 410) or
MATH 415. However, if one course is taken prior to Fall 2012, credit
may be earned for both MATH 416 and either of ASRM 406(formerly
MATH 410) or MATH 415.
3 If MATH 424 or MATH 447 is completed, a requirement for the
Graduate Preparatory concentration has been satisfied.
4 If STAT 400 is completed, a requirement for the Operations Research
concentration has been satisfied.

Information listed in this catalog is current as of 12/2021