Students in the Mathematics major can choose one of the following to complete the major:

Mathematics major (p. 1)
Mathematics major, Applied Mathematics concentration (http://catalog.illinois.edu/undergraduate/las/mathematics-bslas/applied-mathematics/)
Mathematics major, Data Optimization concentration (http://catalog.illinois.edu/undergraduate/las/mathematics-bslas/data-optimization/)
Mathematics major, Math Doctoral Preparation concentration (http://catalog.illinois.edu/undergraduate/las/mathematics-bslas/math-doctoral-preparation/)
Mathematics major, Mathematics Teaching concentration (http://catalog.illinois.edu/undergraduate/las/mathematics-bslas/teaching-mathematics/)

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 to enroll in 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 (p. 1)
Mathematics & Computer Science, BSLAS (http://catalog.illinois.edu/undergraduate/eng_las/mathematics-computer-science-bslas/)

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.

Information listed in this catalog is current as of 08/2022
## Mathematics Courses

Select a total of two courses from two of the following three lists:

<table>
<thead>
<tr>
<th>List</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geometry</strong></td>
<td>MATH 402: Non Euclidean Geometry</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>MATH 403: Euclidean Geometry</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>MATH 423: Differential Geometry</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>MATH 481: Vector and Tensor Analysis</td>
<td>3-4</td>
</tr>
<tr>
<td><strong>Differential Equations and Complex Analysis</strong></td>
<td>MATH 441: Differential Equations</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>MATH 446: Applied Complex Variables</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>MATH 448: Complex Variables</td>
<td>3-4</td>
</tr>
<tr>
<td><strong>Number Theory</strong></td>
<td>MATH 453: Number Theory</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Two additional 400-level or approved 500-level mathematics courses. (Coursework awarded S/U grades may not be used to fill this requirement.)</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Hours**: 46-49

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**Information listed in this catalog is current as of 08/2022**

**department website**: https://www.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