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 during the first semester. Admission to MATH 220 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/)

This concentration fulfills state certification requirements to teach high school math (grades 9-12) through the AP/honors level.

Time to degree completion varies. Minimum time to completion is 8 semesters, with some students requiring 10 semesters. Transfer students may need 10 total semesters combined to complete the program. Please see the LAS section in the transfer handbook (https://admissions.illinois.edu/Content/docs/Handbook_LAS.pdf) for more information.

To remain in good standing in this program and be recommended for certification, candidates are required to maintain UIUC, cumulative, content area, and professional education grade-point averages of 2.5 (A= 4.0). Candidates should consult their adviser or the Council on Teacher Education for the list of courses used to compute these grade-point averages.

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 77-81 hours including 27-29 hours of mathematics beyond calculus, 3-4 hours of computer science, and 39 hours for the Teacher Education Minor in Secondary School Teaching.

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

Minimum hours required for graduation: 120 hours.

Students in this concentration must complete the Teacher Education Minor in Secondary School Teaching (39 hours).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 220</td>
<td>Calculus</td>
<td>4-5</td>
</tr>
<tr>
<td>MATH 221</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>MATH 231</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>Three advanced mathematics courses, including</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 347</td>
<td>Fundamental Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>MATH 348</td>
<td>Fundamental Mathematics-ACP</td>
<td></td>
</tr>
<tr>
<td>MATH 416</td>
<td>Abstract Linear Algebra (Students may not receive credit for both MATH 416 and either ASRM 406 or MATH 415.)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 417</td>
<td>Intro to Abstract Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 427</td>
<td>Honors Abstract Algebra</td>
<td></td>
</tr>
</tbody>
</table>
MATH 424: Honors Real Analysis (if MATH 424 or MATH 447 is completed, a requirement for the Math Doctoral Preparation concentration has been satisfied.)

or MATH 444: Elementary Real Analysis

or MATH 447: Real Variables

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

CS 101: Intro Computing: Engrg & Sci

or CS 124: Introduction to Computer Science I

or CS 125: Introduction to Computer Science

Teacher Education Minor in Secondary School Teaching (http://catalog.illinois.edu/undergraduate/education/secondary/) 39

Mathematics Teaching Courses

MATH 402: Non Euclidean Geometry

or MATH 403: Euclidean Geometry

MATH 453: Number Theory 3

One additional 400-level or approved 500-level mathematics course (Courses awarded S/U grades may not be used to fill this requirement.) 3

Total Hours 77-81

Requirements for the Teacher Education in Secondary School Teaching Minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 201</td>
<td>Identity and Difference in Education ¹</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 202</td>
<td>Social Justice, School and Society ¹</td>
<td>3</td>
</tr>
<tr>
<td>CI 401</td>
<td>Introductory Teaching in a Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>CI 403</td>
<td>Teaching a Diverse High School Student Population</td>
<td>3</td>
</tr>
<tr>
<td>CI 404</td>
<td>Teaching and Assessing Secondary School Students</td>
<td>3</td>
</tr>
<tr>
<td>CI 473</td>
<td>Disciplinary Literacy</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 201</td>
<td>Educational Psychology ¹, ²</td>
<td>3</td>
</tr>
<tr>
<td>EPSY 485</td>
<td>Assessing Student Performance</td>
<td>3</td>
</tr>
<tr>
<td>SPED 405</td>
<td>General Educator’s Role in Special Education</td>
<td>3</td>
</tr>
<tr>
<td>EDPR 442</td>
<td>Educational Practice in Secondary Education</td>
<td>12</td>
</tr>
</tbody>
</table>

Total Hours 39-40

¹ EDUC 201, EDUC 202 and EPSY 201 can be completed at any time during the degree and are not pre-requisites to apply for the minor.

² PSYC 100 is a pre-requisite for EPSY 201.

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