

# MATHEMATICS: MATHEMATICS TEACHING, BSLAS

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

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 (<http://catalog.illinois.edu/undergraduate/las/mathematics-bslas/#text>)

Mathematics & Computer Science, BSLAS ([http://catalog.illinois.edu/undergraduate/eng\\_las/mathematics-computer-science-bslas/](http://catalog.illinois.edu/undergraduate/eng_las/mathematics-computer-science-bslas/))

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This concentration fulfills state licensure 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](https://admissions.illinois.edu/Content/docs/Handbook_LAS.pdf)) for more information.

To remain in good standing in this program and be recommended for licensure, candidates are required to maintain a cumulative grade-point average of 2.5 (A= 4.0).

**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).

Code	Title	Hours
<b>Foundation Courses</b>		
The following courses must be completed or in progress when students apply to the Secondary Education minor.		
MATH 220 or MATH 221	Calculus Calculus I	4-5
MATH 231	Calculus II	3
MATH 241	Calculus III	4
Three advanced mathematics courses, including		
MATH 347	Fundamental Mathematics	3
<b>Required Core Courses</b>		
MATH 416	Abstract Linear Algebra (Students may not receive credit for both MATH 416 and either ASRM 406 or MATH 415.)	3
MATH 417 or MATH 427	Intro to Abstract Algebra Honors Abstract Algebra	3
MATH 424 or MATH 444 or MATH 447	Honors Real Analysis (If MATH 424 or MATH 447 is completed, a requirement for the Math Doctoral Preparation concentration has been satisfied.) Elementary Real Analysis Real Variables	3
MATH 461 or STAT 400	Probability Theory (If STAT 400 is completed, a requirement for the Data Optimization concentration has been satisfied.) Statistics and Probability I	3-4
CS 101 or CS 124 or CS 125	Intro Computing: Engrg & Sci Introduction to Computer Science I Introduction to Computer Science	3-4
Teacher Education Minor in Secondary School Teaching ( <a href="http://catalog.illinois.edu/undergraduate/education/secondary/">http://catalog.illinois.edu/undergraduate/education/secondary/</a> )		39
<b>Mathematics Teaching Courses</b>		
MATH 402 or MATH 403	Non Euclidean Geometry Euclidean Geometry	3
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
<b>Total Hours</b>		<b>77-80</b>

**Requirements for the Teacher Education in Secondary School Teaching Minor**

Code	Title	Hours
<b>Professional Education Required Courses</b>		
EDUC 201	Identity and Difference in Education <sup>1</sup>	3
EDUC 202	Social Justice, School and Society <sup>1</sup>	3
CI 401	Introductory Teaching in a Diverse Society	3
CI 403	Teaching a Diverse High School Student Population	3
CI 404	Teaching and Assessing Secondary School Students	3
CI 473	Disciplinary Literacy	3
EPSY 201	Educational Psychology <sup>1,2</sup>	3
EPSY 485	Assessing Student Performance	3
SPED 405	General Educator's Role in Special Education	3
EDPR 442	Educational Practice in Secondary Education	12
<b>Total Hours</b>		<b>39-40</b>

<sup>1</sup> 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.

<sup>2</sup> PSYC 100 is a pre-requisite for EPSY 201.

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**Sample Sequence**

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a fourth level of a language other than English. See the corresponding section on the Degree and General Education Requirements page (<http://catalog.illinois.edu/general-information/degree-general-education-requirements/>).

**First Year**

First Semester	Hours	Second Semester	Hours
Free elective course		1 MATH 231	3
MATH 220 or 221		4 CS 101 (or CS 124 or CS 125)	3
Composition I or General Education course		4 General Education course or Composition I	3
Language Other than English (3rd level)		4 Language Other than English (4th level)	4
PSYC 100		4 EDUC 201	3
	<b>17</b>		<b>16</b>

**Second Year**

First Semester	Hours	Second Semester	Hours
MATH 241		4 MATH 416	3
MATH 347		3 MATH 461 or STAT 400	3
EPSY 201		3 EDUC 202	3
General Education course		3 General Education course	3
General Education course		3 Free elective course	3
	<b>16</b>		<b>15</b>

**Third Year**

First Semester	Hours	Second Semester	Hours
MATH 417 or 427		3 MATH 424 (or MATH 444 or MATH 447)	3
MATH 402 or 403		3 MATH 453	3
General Education course		3 Advanced Mathematics course	3
Advanced Mathematics course		3 CI 401	3
Free elective course		2 CI 473	3
	<b>14</b>		<b>15</b>

**Fourth Year**

First Semester	Hours	Second Semester	Hours
MATH 400-500 level course		3 EDPR 442	12
CI 403		3 CI 404	3
SPED 405		3	
EPSY 485		3	
	<b>12</b>		<b>15</b>

**Total Hours 120**

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Department of Mathematics website (<https://math.illinois.edu/>)  
 Mathematics faculty (<https://math.illinois.edu/directory/faculty/>)  
 Math Advising (<https://math.illinois.edu/academics/undergraduate-program/undergraduate-advising/>)  
 Math Advising email ([mathadvising@illinois.edu](mailto:mathadvising@illinois.edu))

**Overview of College Admissions & Requirements:** Liberal Arts & Sciences (<http://catalog.illinois.edu/schools/las/academic-units/>)

College of Liberal Arts and Sciences website (<https://las.illinois.edu/>)