Mathematics Education, B.A.

Requirements

The Bachelor of Arts with a major in mathematics education requires a minimum of 120 s.h., including 42 s.h. in mathematics professional education courses, and a minimum of 41-42 s.h. in mathematics education content courses for students earning the B.A. in mathematics or a minimum of 47-50 s.h. in mathematics education content courses for students earning the B.S. in mathematics. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They also must complete the GE CLAS Core. The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn a B.A. in mathematics (Program B) or a B.S. in mathematics (Program B) at the University of Iowa in order to earn the B.A. in mathematics education; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned one of these degrees at another institution and wish to earn the B.A. in mathematics education should consult the Department of Teaching and Learning; additional coursework may be required. Students also complete coursework in teacher licensure including student teaching.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for student planning to student teach the following fall semester is November 15 and April 15 for the following spring semester.

The B.A. with a major in mathematics education requires the following work.

Professional Education Course Requirements

Students complete 42 s.h. from the following.

Foundation Courses

Foundation courses may be completed before or after admission to the major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTL:4900</td>
<td>Foundations of Special Education</td>
<td>3</td>
</tr>
<tr>
<td>EPLS:3000</td>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>PSQF:1075</td>
<td>Educational Psychology and Measurement</td>
<td>3</td>
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</table>

Additional Licensure Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTL:3002</td>
<td>Technology in the Classroom</td>
<td>2</td>
</tr>
<tr>
<td>EDTL:3091</td>
<td>Secondary Education Program Orientation and Classroom Management</td>
<td>3</td>
</tr>
<tr>
<td>EDTL:3095</td>
<td>Teaching Reading in Secondary Content Areas</td>
<td>1</td>
</tr>
<tr>
<td>EDTL:3532</td>
<td>Introduction and Practicum: Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>EDTL:3534</td>
<td>Methods: Middle School Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>EDTL:4535</td>
<td>Methods: High School Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>EPLS:4180</td>
<td>Human Relations for the Classroom Teacher</td>
<td>3</td>
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</tbody>
</table>

Student Teaching

Transfer students should consult their adviser since they must complete certain courses before they student teach.

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<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>EDTL:4087</td>
<td>Seminar: Curriculum and Student Teaching</td>
<td>3</td>
</tr>
<tr>
<td>EDTL:4091</td>
<td>Observation and Laboratory Practice in the Secondary School</td>
<td>6</td>
</tr>
<tr>
<td>EDTL:4092</td>
<td>Observation and Laboratory Practice in the Secondary School</td>
<td>6</td>
</tr>
</tbody>
</table>

Mathematics Education Content Courses

Students earning a B.A. in mathematics complete at least 41-42 s.h. from the following; students earning a B.S. in mathematics complete at least 47-50 s.h. from the following.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS:1210</td>
<td>Computer Science I: Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1850</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1860</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH:2150</td>
<td>Foundations of Geometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH:2700</td>
<td>Introduction to Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH:2850</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH:3720</td>
<td>Introduction to Abstract Algebra I</td>
<td>4</td>
</tr>
<tr>
<td>MATH:3770</td>
<td>Fundamental Properties of Spaces and Functions I</td>
<td>4</td>
</tr>
</tbody>
</table>
STAT:3120  Probability and Statistics  4
One of these:
MATH:4050  Introduction to Discrete Mathematics  3
MATH:4060  Discrete Mathematical Models  3
And:
students earning a B.A. in mathematics, one additional course beyond calculus  3-4
students earning a B.S. in mathematics, three additional courses beyond calculus, including at least two courses numbered MATH:4120 or above  9-12

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Mathematics Education, B.A.

Course  Title  Hours

Academic Career
Any Semester
Mathematics Program B is intended for students seeking secondary school teaching licensure.  
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please consult an advisor for the College of Education.
Students must maintain a GPA of at least 2.70 in professional education course requirements.
Students must earn another major at the University of Iowa in order to earn the BA in mathematics education. Both degrees may be earned at the same time.
Graduates who have earned one of these degrees at another institution and wish to earn the BA in mathematics education should consult the Department of Teaching and Learning; additional coursework may be required.

First Year
Fall
ENGL:1200  The Interpretation of Literature or RHET:1030  Rhetoric  3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course  4 - 5
MATH:1850  Calculus I  4
CS1:1600  Success at Iowa  2
Elective course  2

Hours  15-17

Spring
RHET:1030  Rhetoric or ENGL:1200  The Interpretation of Literature  3 - 4
MATH:1860  Calculus II  4

GE CLAS Core: World Languages Second Level Proficiency or elective course  4 - 5
PSQF:1075  Educational Psychology and Measurement  3
GE CLAS Core: Diversity and Inclusion  3
10-hour pre-admission school field experience  

Hours  17-19

Summer
Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation)

Second Year
Fall
GE CLAS Core: World Languages Second Level Proficiency or elective course  4 - 5
MATH:2700  Introduction to Linear Algebra  4
MATH:2850  Calculus III  4
EPLS:3000  Foundations of Education  3
Elective course  1
Admission Application: apply to the Teacher Education Program

Hours  16-17

Spring
MATH:2150  Foundations of Geometry  3
EDTL:3091  Secondary Education Program Orientation and Classroom Management  3
EDTL:3095  Teaching Reading in Secondary Content Areas  1
EDTL:3002  Technology in the Classroom  2
GE CLAS Core: World Languages Fourth Level Proficiency or elective course  4 - 5
GE CLAS Core: Social Sciences  3

GE CLAS Core: Literary, Visual, and Performing Arts

Third Year
Fall
MATH:3720  Introduction to Abstract Algebra I  4
MATH:4050  Introduction to Discrete Mathematics  3
EDTL:3532  Introduction and Practicum: Mathematics  3
EDTL:4900  Foundations of Special Education  3
GE CLAS Core: Historical Perspectives  3

Hours  16

Spring
MATH:3770  Fundamental Properties of Spaces and Functions  4
STAT:3120  Probability and Statistics  4
EDTL:3534  Methods: Middle School Mathematics  3
EPLS:4180  Human Relations for the Classroom Teacher  3
Elective course  1

Hours  15

Fourth Year
Fall
GE CLAS Core: Literary, Visual, and Performing Arts  3

Graduates who have earned one of these degrees at another institution and wish to earn the BA in mathematics education should consult the Department of Teaching and Learning; additional coursework may be required.
GE CLAS Core: Natural Sciences with Lab  
Major: required post-calculus math elective course  
EDTL:4535  
Elective course  
Apply for student teaching (see the College of Education website for application instructions and deadlines)

<table>
<thead>
<tr>
<th>Spring</th>
<th>Hours</th>
</tr>
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</table>
| CS:1210  
Computer Science I: Fundamentals | 15-16 |
| GE CLAS Core: Natural Sciences without Lab | |
| GE CLAS Core: International and Global Issues | |
| Elective course | |
| Elective course | |

Fifth Year

Fall

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
</tr>
</thead>
</table>
| EDTL:4087  
Seminar: Curriculum and Student Teaching | 3 |
| EDTL:4091  
Observation and Laboratory Practice in the Secondary School | 6 |
| EDTL:4092  
Observation and Laboratory Practice in the Secondary School | 6 |
| Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) | |
| Exam: edTPA | |

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<tr>
<th>Hours</th>
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<tbody>
<tr>
<td>15</td>
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</table>

Total Hours 140-147

a. Completion of the Mathematics (Program B) BA major requirements (41-42 s.h.), the Teacher Education Program requirements (39 s.h.), and all general education requirements (including World Languages) (48-52 s.h.) exceeds the minimum 120 s.h. expected for a bachelor’s degree in CLAS. Students pursuing this program of study should expect to take higher than average number (15 s.h.) of semester hours per term, take summer classes, and/or extend graduation time frame beyond four years.

b. These majors include a BA in mathematics (program B) or a BS in mathematics (program B) at the University of Iowa.

c. Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d. Enrollment in math courses requires completion of a placement exam.

e. Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f. Course required for the Teacher Education Program and may be completed prior to admission to the College of Education.

g. GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

h. Complete the College of Education verification of 10 hour field experience form available on the Office of Educational Services web page.

i. Required for admission into the Teacher Education Program.

j. Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.

k. Course may also be offered in the summer session.

l. Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

m. Course must be completed during the first semester of enrollment in the Teacher Education Program.