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.

Additional Licensure Courses

<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>
</tr>
</tbody>
</table>

Student Teaching

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

<table>
<thead>
<tr>
<th>Code</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>
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<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>
Mathematics Education, B.A.

Course Title Hours

Academic Career

Core

Probability and Statistics 4

One of these:

Introduction to Discrete Mathematics 3

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 or RHET:1030 The Interpretation of Literature or 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

ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3 - 4

MATH:1860 Calculus II 4

GE CLAS Core: World Languages Second Level Proficiency or elective course 4 - 5

Hours 15-17

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

Hours 16-17

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 I 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
Mathematics Education, B.A.

GE CLAS Core: Natural Sciences with Lab \(^g\)
Major: required post-calculus math elective course \(^q\) 3 - 4
EDTL:4535  Methods: High School Mathematics \(^m\) 3
Elective course \(^e\) 2
Apply for student teaching (see the College of Education website for application instructions and deadlines)

<table>
<thead>
<tr>
<th>Hours</th>
<th>15-16</th>
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Spring
CS:1210  Computer Science I: Fundamentals \(^k\) 4
GE CLAS Core: Natural Sciences without Lab \(^g\) 3
GE CLAS Core: International and Global Issues \(^g\) 3
Elective course \(^e\) 3
Elective course \(^e\) 2

<table>
<thead>
<tr>
<th>Hours</th>
<th>15</th>
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</table>

Fifth Year
Fall
EDTL:4087  Seminar: Curriculum and Student Teaching \(^m\) 3
EDTL:4091  Observation and Laboratory Practice in the Secondary School \(^m\) 6
EDTL:4092  Observation and Laboratory Practice in the Secondary School \(^m\) 6
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) \(^r\)
Exam: edTPA \(^s\)

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<tr>
<th>Hours</th>
<th>15</th>
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| 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  Required for admission into the Teacher Education Program.
i  Complete the College of Education verification of 10 hour field experience form available on the Office of Educational Services web page.
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 required for the Teacher Education Program and may only be completed after admission to the College of Education.