Mathematics, B.A.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University’s Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Many mathematics courses must be taken in sequence, so students must begin major requirements as early as possible, and individual plans of study must be constructed carefully. The major typically requires 11 or 12 courses. Students must choose Program A, B, or C by the end of the third semester and must remain in their chosen program until they graduate in order to stay on track for the four-year graduation plan.

Before the third semester begins: coursework in the major through second-semester calculus.

Before the fifth semester begins: two or three more courses in the major.

Before the seventh semester begins: three or four more courses in the major and at least 90 s.h. earned toward the degree.

Before the eighth semester begins: two or three more courses in the major.

During the eighth semester: enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

Sample Plans 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, B.A.

- Program A [p. 1]
- Program B [p. 2]

Program A

Course Title Hours

Any Semester

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.

First Year

Fall

RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3 - 4
MATH:1850 Calculus I 4
GE CLAS Core: Values and Culture 3
CSI:1600 Success at Iowa 2
Elective course 2

Hours 14-15

Spring

RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3 - 4
MATH:1860 Calculus II 4
GE CLAS Core: Literary, Visual, and Performing Arts 3
GE CLAS Core: Diversity and Inclusion 3
Elective course 2

Hours 15-16

Second Year

Fall

GE CLAS Core: World Languages First Level Proficiency or elective course 4 - 5
MATH:2700 Introduction to Linear Algebra 4
MATH:2850 Calculus III 4
GE CLAS Core: Social Sciences 3
Elective course 1

Hours 15-16

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course 4 - 5
MATH:3600 Introduction to Ordinary Differential Equations 3
MATH:3720 Introduction to Abstract Algebra I 4
GE CLAS Core: Historical Perspectives 3
Elective course 2

Hours 15-16

Third Year

Fall

GE CLAS Core: World Languages Second Level Proficiency or elective course 4 - 5
MATH:3770 Fundamental Properties of Spaces and Functions I 4
Major: required post-calculus math elective course 3
GE CLAS Core: Natural Sciences with Lab 4
Elective course 3

Hours 15-16

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course 4 - 5
Major: required post-calculus math elective course 3
Elective course 3
GE CLAS Core: Natural Sciences without Lab 3
Elective course 3

Hours 15-16

Fourth Year

Fall

Major: required upper-level math elective course 3
GE CLAS Core: International and Global Issues 3
Elective course 3
Elective course 3
Elective course 3

Hours 15

Spring

Major: required post-calculus math elective course 3
Elective course 3
Elective course 3
Program B

Course Title Hours

Academic Career

Any Semester

Program B is intended for students seeking secondary school teaching licensure.

Completion of mathematics (program B) BA, Teacher Education Program, and all general education requirements exceeds the minimum 120 s.h. required for graduation. Students should expect to take higher than average number of semester hours per term, take summer classes, and/or extend graduation time frame beyond four years.

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.

First Year

Fall

ENGL:1200 The Interpretation of Literature or RHET:1030 or Rhetoric 3 - 4
MATH:1850 Calculus I a, b 4
GE CLAS Core: World Languages First Level Proficiency or elective course c 4 - 5

Spring

ENGL:1200 The Interpretation of Literature or RHET:1030 or Rhetoric 3 - 4
MATH:1860 Calculus II a 4
GE CLAS Core: World Languages Second Level Proficiency or elective course c 4 - 5

Course(s) required for second degree - consult sample plan for BA in mathematics education

10-hour pre-admission school field experience a, d

Hours 15-16

Second Year

Fall

MATH:2700 Introduction to Linear Algebra 4
MATH:2850 Calculus III 4
GE CLAS Core: World Languages Second Level Proficiency or elective course c 4 - 5

Course(s) required for second degree - consult sample plan for BA in mathematics education

Admission Application: apply to the Teacher Education Program

Hours 15-16

Spring

MATH:2150 Foundations of Geometry g 3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course c 4 - 5
GE CLAS Core: Social Sciences e 3

Course(s) required for second degree - consult sample plan for BA in mathematics education

Hours 16-17

Third Year

Fall

MATH:3720 Introduction to Abstract Algebra I 4
MATH:4050 Introduction to Discrete Mathematics n 3
GE CLAS Core: Historical Perspectives e 3

Course(s) required for second degree, including a course that satisfies the GE CLAS Core Diversity and Inclusion area - consult sample plan for BA in mathematics education

Hours 16

Spring

MATH:3770 Fundamental Properties of Spaces and Functions I 4
STAT:3120 Probability and Statistics 4
Course(s) required for second degree, including a course that satisfies the GE CLAS Core Values and Culture area - consult sample plan for BA in mathematics education

Apply for student teaching (see the College of Education website for application instructions and deadlines)

<table>
<thead>
<tr>
<th>Hours</th>
<th>14</th>
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**Fourth Year**

**Fall**

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<thead>
<tr>
<th>Course(s) required for second degree - consult sample plan for BA in mathematics education</th>
<th>3</th>
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<tbody>
<tr>
<td>CS:1210 Computer Science I: Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>Major: required post-calculus math elective course</td>
<td>3 - 4</td>
</tr>
<tr>
<td>GE CLAS Core: Literary, Visual, and Performing Arts</td>
<td>3</td>
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</tbody>
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**Spring**

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<tr>
<th>Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)</th>
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<td>Exam: edTPA</td>
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<tr>
<th>Hours</th>
<th>15</th>
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**Total Hours**

| 126-133 |

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**Notes:**

- a Required for admission into the Teacher Education Program.
- b Enrollment in math courses requires completion of a placement exam.
- 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 Complete the College of Education verification of 10 hour field experience form available on the Office of Student Services web page.
- e 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.
- f Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.
- g Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h Students must complete MATH:4050, a fall-only course, or MATH:4060, a spring-only course.
- i Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.
- k As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.