## Mathematics, BS

## 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 13 or 14 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: three or four 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, BS

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


## Program A

Course Title Hours

## Academic Career

## Any Semester

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.
Students must earn at least 15 s.h. in postcalculus mathematics courses offered by the Department of Mathematics or cross-referenced with a mathematics course at the University of Iowa. Post-calculus courses are numbered 2000 or above, excluding: MATH:3700 Introduction to Matrix Theory, MATH:3750 Classical Analysis, MATH:3995 Topics in Mathematics, MATH:3996 Individual Study \& Honors in Mathematics, MATH:3997 Readings in Mathematics, MATH:4010 Basic Analysis, and MATH:4020 Basic Abstract Algebra. ${ }^{\text {a }}$

| GE CLAS Core: Sustainability ${ }^{\text {b }}$ |  |
| :---: | :---: |
| Hours | 0 |
| First Year |  |
| Fall |  |
| MATH:1850 Calculus ${ }^{\text {c }}$ | 4 |
| RHET:1030 Rhetoric <br> or ENGL:1200 or The Interpretation of <br>  Literature | 3-4 |
| GE CLAS Core: Values and Culture ${ }^{\text {d }}$ | 3 |
| CSI:1600 Success at lowa | 2 |
| Elective course ${ }^{\text {e }}$ | 2 |
| Hours | 14-15 |
| Spring |  |
| MATH:1860 Calculus II | 4 |
| MATH:2700 Introduction to Linear Algebra | 4 |
| RHET:1030 Rhetoric <br> or ENGL:1200 or The Interpretation of | 3-4 |
| GE CLAS Core: Diversity and Inclusion ${ }^{\text {d }}$ | 3 |
| Elective course ${ }^{\text {e }}$ | 1 |
| Hours | 15-16 |
| Second Year |  |
| Fall |  |
| MATH:2850 Calculus III | 4 |
| MATH:3600 $\begin{aligned} & \text { Introduction to Ordinary } \\ & \text { Differential Equations }\end{aligned}$ | 3 |
| GE CLAS Core: Social Sciences ${ }^{\text {d }}$ | 3 |
| GE CLAS Core: World Languages First Level Proficiency or elective course | 4-5 |
| Elective course ${ }^{\text {e }}$ | 2 |
| Hours | 16-17 |
| Spring |  |
| MATH:3720 Introduction to Abstract Algebra I | 4 |
| Major: required post-calculus math elective course ${ }^{\text {g }}$ | 3 |
| GE CLAS Core: Historical Perspectives ${ }^{\text {d }}$ | 3 |
| GE CLAS Core: World Languages Second Level Proficiency or elective course | 4-5 |
| Elective course ${ }^{\text {e }}$ | 2 |
| Hours | 16-17 |
| Third Year |  |
| Fall |  |
| MATH:3770 $\begin{aligned} & \text { Fundamental Properties of Spaces } \\ & \text { and Functions }\end{aligned}$ and Functions I | 4 |
| Major: required post-calculus math elective course ${ }^{\text {g }}$ | 3-4 |
| GE CLAS Core: Natural Sciences with Lab ${ }^{\text {d }}$ | 4 |
| GE CLAS Core: World Languages Third Level Proficiency or elective course | 4-5 |
| Hours | 15-17 |
| Spring |  |
| Major: required post-calculus math elective course ${ }^{\text {g }}$ | 3-4 |
| Major: required upper-level math elective course ${ }^{h}$ | 3 |
| GE CLAS Core: Natural Sciences without Lab ${ }^{\text {d }}$ | 3 |
| GE CLAS Core: World Languages Fourth Level Proficiency or elective course | 4-5 |
| Elective course ${ }^{\text {e }}$ | 3 |
| Hours | 16-18 |

## Fourth Year

## Fall

| Major: required upper-level math elective course ${ }^{\text {h }}$ | 3 |
| :---: | :---: |
| GE CLAS Core: International and Global Issues ${ }^{\text {d }}$ | 3 |
| GE CLAS Core: Literary, Visual, and Performing Arts | 3 |
| Elective course ${ }^{\text {e }}$ | 3 |
| Elective course ${ }^{\text {e }}$ | 3 |
| Hours | 15 |
| Spring |  |
| Major: required upper-level math elective course ${ }^{\text {h }}$ | 3 |
| Elective course ${ }^{\text {e }}$ | 3 |
| Elective course ${ }^{\text {e }}$ | 3 |
| Elective course ${ }^{\text {e }}$ | 3 |
| Elective course ${ }^{\text {e }}$ | 3 |
| Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) |  |
| Hours | 15 |
| Total Hours | 122-130 |

a See General Catalog or consult an advisor for more information.
b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
c Enrollment in math courses requires completion of a placement exam.
d 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.
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 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.
g At least four of the six major electives must have a prefix of MATH, including at least three upper-level math courses. See General Catalog or consult an advisor for more information about appropriate elective courses.
h Mathematical electives must include at least three upperlevel math courses. These include: MATH:3900 and math courses (MATH prefix) numbered 4000 and higher, but not MATH:4010, MATH:4020 and MATH:4120. Each upper-level math course is offered at most once per year; choose when to complete the upper-level requirement according to spring or fall offerings for desired courses.
i 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.

## Program B

This sample plan is currently being updated and will be added at a later date.

