Biology, 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.


Before the fifth semester begins: BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I, STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics, and two other courses in the major.

Before the seventh semester begins: BIOL:2512 Fundamental Genetics; PHYS:1511 College Physics I and PHYS:1512 College Physics II, or equivalents; six or seven 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.

Biology, BS

- Cell and Developmental Biology Track [p. 1]
- Genetics and Biotechnology Track [p. 2]
- Integrative Biology Track [p. 3]
- Neurobiology Track [p. 4]

Cell and Developmental Biology Track

Course Title Hours
Academic Career
Any Semester
GE CLAS Core: Sustainability a

Hours 0

First Year
Fall
CHEM:1110 Principles of Chemistry I b 4
RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3 - 4
MATH:1460 Calculus for the Biological Sciences c 4
GE CLAS Core: Diversity and Inclusion d 3
CSI:1600 Success at Iowa 2

Hours 16-17

Spring
BIOL:1411 Foundations of Biology 4
CHEM:1120 Principles of Chemistry II 4
ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3 - 4
GE CLAS Core: Social Sciences d 3

Hours 14-15

Second Year
Any Semester

Research: students interested in research should begin the placement search process in the second year.

Fall
BIOL:1412 Diversity of Form and Function 4
CHEM:2210 Organic Chemistry I 3
STAT:2010 or STAT:3510 Statistical Methods and Computing or Biostatistics 3
GE CLAS Core: World Languages First Level Proficiency or elective course e 4 - 5

Hours 14-15

Spring
BIOL:2512 Fundamental Genetics 4
BIOL:2723 Cell Biology 3
Major: foundation track course - BMB:3110 Biochemistry or BMB:3120 Biochemistry and Molecular Biology I 3
GE CLAS Core: World Languages Second Level Proficiency or elective course e 4 - 5

Hours 14-15

Third Year
Fall
BIOL:3233 or BIOL:3363 or BIOL:3172 Introduction to Developmental Biology or Plant Developmental Biology or Evolution 3 - 4
PHYS:1511 College Physics I 4
Major: foundation track course g 3 - 5
GE CLAS Core: World Languages Third Level Proficiency or elective course e 4 - 5

Hours 14-18

Spring
BIOL:3172 or BIOL:3233 or BIOL:3363 Evolution or Introduction to Developmental Biology or Plant Developmental Biology 3 - 4
PHYS:1512 College Physics II 4
Major: cell and developmental biology elective I h 3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course e 4 - 5

Hours 14-16

Fourth Year
Fall
BIOL:3626 or BIOL:3736 Cell Biology Laboratory or Developmental Biology Lab 4
Major: cell and developmental biology elective II h 3
GE CLAS Core: Historical Perspectives d 3
GE CLAS Core: International and Global Issues d 3

Hours
Genetics and Biotechnology Track

Course | Title | Hours
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Academic Career | GE CLAS Core: Sustainability | 0

Any Semester

GE CLAS Core: Sustainability

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<td>Fall</td>
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<td>ENGL:1200 The Interpretation of Literature</td>
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<td>GE CLAS Core: Values and Culture</td>
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<td>BIOL:1412 Diversity of Form and Function</td>
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<td>BIOL:2723 Cell Biology</td>
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<td>BIOL:3172 Evolution</td>
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<td>BIOL:3713 Molecular Genetics</td>
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<td>BIOL:3314 Genomics</td>
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<td>PHYS:1511 College Physics I</td>
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<td>GE CLAS Core: World Languages Fourth Level Proficiency or elective course</td>
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<td>Major: genetics elective</td>
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<td></td>
<td>Major: experiential elective</td>
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<td>GE CLAS Core: International and Global Issues</td>
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GE CLAS Core: Literary, Visual, and Performing Arts 3

**Spring**

- BIOL:3716 Genetics and Biotechnology Lab 4
- Major: genetics elective II 3
- GE CLAS Core: Historical Perspectives 3
- Elective course 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

| Hours | 17 |

GE CLAS Core: Social Sciences 3

CSI:1600 Success at Iowa 2

**Hours** 16-17

**Second Year**

Any Semester

Research: students interested in research should begin the placement search process in the second year.

| Hours | 0 |

**Fall**

- BIOL:1411 Foundations of Biology 4
- CHEM:1120 Principles of Chemistry II 4
- RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3-4

GE CLAS Core: Diversity and Inclusion 3

| Hours | 14-15 |

**Third Year**

**Fall**

- BIOL:2512 Fundamental Genetics 4
- BIOL:2673 Ecology 3
- PHYS:1511 College Physics I 4
- GE CLAS Core: World Languages Second Level Proficiency or elective course 4-5

| Hours | 15-16 |

**Spring**

- BIOL:2723 Cell Biology 3
- PHYS:1512 College Physics II 4
- Major: foundation track course - BMB:3110 Biochemistry or BMB:3120 Biochemistry and Molecular Biology 3
- GE CLAS Core: World Languages Third Level Proficiency or elective course 4-5

| Hours | 14-15 |

**Fourth Year**

**Fall**

Major: biological systems course II 3

Major: investigative lab 4

GE CLAS Core: Historical Perspectives 3

GE CLAS Core: International and Global Issues 3
### Elective course

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</table>

#### Spring

**Major: genes and genomes course**
- Hours: 3

**Major: experiential elective**
- Hours: 4

**GE CLAS Core: Literary, Visual, and Performing Arts**
- Hours: 3

**GE CLAS Core: Values and Culture**
- Hours: 3

**Elective course**
- Hours: 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)
- Hours: 16

**Total Hours:** 119-125

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**Neurobiology Track**

**Course**

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<tr>
<th>Course</th>
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**Any Semester**

**GE CLAS Core: Sustainability**
- Hours: 0

**Fall**

- BIOL:1412 Diversity of Form and Function
- CHEM:2210 Organic Chemistry I
- STAT:2010 or STAT:3510 Statistical Methods and Computing or Biostatistics
- GE CLAS Core: World Languages First Level Proficiency or elective course
- Hours: 14-15

**Spring**

- BIOL:2512 Fundamental Genetics
- BIOL:2753 or PSY:2701 Introduction to Neurobiology or Introduction to Behavioral Neuroscience
- GE CLAS Core: Historical Perspectives
- GE CLAS Core: World Languages Second Level Proficiency or elective course
- Hours: 14-15

**Third Year**

**Fall**

- BIOL:2723 Cell Biology
- BMB:3110 or BMB:3120 Biochemistry or Biochemistry and Molecular Biology I
- PHYS:1511 College Physics I
- GE CLAS Core: World Languages Third Level Proficiency or elective course
- Hours: 14-15

**Spring**

- BMB:3130 Biochemistry and Molecular Biology II
- PHYS:1512 College Physics II
- Major: neurobiology elective
- GE CLAS Core: World Languages Fourth Level Proficiency or elective course
- Hours: 14-16

**Fourth Year**

**Fall**

- BIOL:3253 Neurobiology I
- Hours: 4
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<td>BIOL:3245</td>
<td>Animal Behavior Laboratory</td>
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<tr>
<td>or BIOL:3656</td>
<td>or Neurobiology Laboratory</td>
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<tr>
<td>or BIOL:3655</td>
<td>or Neurogenetics Laboratory</td>
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<td>GE CLAS Core: International and Global Issues</td>
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**Hours** 14

**Spring**

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<td>Neurobiology II</td>
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<td>Major: experiential elective</td>
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<td>GE CLAS Core: Literary, Visual, and Performing Arts</td>
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<td>GE CLAS Core: Values and Culture</td>
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**(typically in February for spring, September for fall)**

**Hours** 14

**Total Hours** 114-121

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a 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.
b Enrollment in chemistry courses requires completion of a placement exam.
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 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.
f Students who take BMB:3120 also must take BMB:3130.
g See General Catalog for list of approved courses. Students who took BMB:3120 must take BMB:3130.
h See General Catalog for list of approved courses.
i See General Catalog for list of approved options; some may require more than one semester.
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.