Microbiology, 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 third semester begins: BIOL:1411 Foundations of Biology, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, and an approved calculus or biostatistics course.

Before the fifth semester begins: BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I, MICR:2157 General Microbiology, and MICR:2158 General Microbiology Laboratory.

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

Before the eighth semester begins: another 10–12 s.h. of coursework.

During the eighth semester: enrollment in all remaining coursework in the major, all remaining required 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.

Microbiology, BS

• Pre-Medicine Track [p. 1]
• Scholar Track [p. 2]

Pre-Medicine Track

Course Title Hours
Academic Career

Any Semester
GE CLAS Core: Sustainability

Hours 0

First Year
Fall
CHEM:1110 Principles of Chemistry I 4
MATH:1460 Calculus for the Biological Sciences 4
ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3 - 4
CSI:1600 Success at Iowa 2
Elective course f 1

Hours 14-15

Spring
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 h 3

Hours 14-15

Second Year
Fall
BIOL:1412 Diversity of Form and Function 4
CHEM:2210 Organic Chemistry I 3
GE CLAS Core: Historical Perspectives h 3
GE CLAS Core: World Languages First Level Proficiency or elective course 4 - 5
Elective course 2

Hours 16-17

Spring
MICR:2157 General Microbiology 3
MICR:2158 General Microbiology Laboratory 2
CHEM:2220 Organic Chemistry II 3
GE CLAS Core: International and Global Issues h 3
GE CLAS Core: World Languages Second Level Proficiency or elective course 4 - 5

Hours 15-16

Third Year
Fall
BMB:3120 Biochemistry and Molecular Biology I 3
CHEM:2410 Organic Chemistry Laboratory 3
PHYS:1611 or PHYS:1511 Introductory Physics I or College Physics I 4
GE CLAS Core: Values and Culture h 3
GE CLAS Core: World Languages Third Level Proficiency or elective course 4 - 5

Hours 17-18

Spring
BMB:3130 Biochemistry and Molecular Biology II 3
PHYS:1612 or PHYS:1512 Introductory Physics II or College Physics II 4
Major: advanced elective course 3
GE CLAS Core: Literary, Visual, and Performing Arts 3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course 4 - 5

Hours 17-18

Fourth Year
Fall
Major: advanced microbiology course 3
Major: advanced microbiology course 3
Major: optional research 1 - 3
GE CLAS Core: Social Sciences h 3
Elective course f 3
Elective course f 1

Hours 14-16

Spring
Major: advanced microbiology course 3
Major: advanced microbiology course 4
Major: optional research 1 - 3
Elective course f 3
Elective course f 3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) l

<table>
<thead>
<tr>
<th>Hours</th>
<th>14-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hours</td>
<td>121-131</td>
</tr>
</tbody>
</table>

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 Fulfills a major requirement and may fulfill a GE requirement.
c Enrollment in chemistry courses requires completion of a placement exam.
d Other course options include BIOS:4120, MATH:1550, MATH:1850, STAT:3510; selecting a course that satisfies the Quantitative or Formal Reasoning GE requirement is recommended.
e Enrollment in math courses requires completion of a placement exam.
f 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.
g Students must earn a grade of C or higher in BIOL:1411, or in MICR:2157 and MICR:2158, in order to take more advanced Department of Microbiology and Immunology courses.
h 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.
i 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.
j See the General Catalog for list of approved courses.
k Complete at least 13 s.h. of advanced microbiology and immunology courses (prefix MICR) numbered MICR:3147 or above, excluding MICR:3164; see the General Catalog for list of approved courses.
l 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.

### Scholar Track

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GE CLAS Core: Sustainability a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM:1110</td>
<td>Principles of Chemistry I b, c</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1460</td>
<td>Calculus for the Biological Sciences b, d, e</td>
<td>4</td>
</tr>
<tr>
<td>ENGL:1200 or RHET:1030</td>
<td>The Interpretation of Literature or Rhetoric b, d</td>
<td>3 - 4</td>
</tr>
<tr>
<td>Elective course f</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

| Semester | | |
| Spring | | |
| BIOL:1411 | Foundations of Biology b, g | 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 h | | 3 |

#### Second Year

| Semester | | |
| Fall | | |
| BIOL:1412 | Diversity of Form and Function | 4 |
| CHEM:2210 | Organic Chemistry I | 3 |
| MICR:2157 | General Microbiology g | 3 |
| MICR:2158 | General Microbiology Laboratory g | 2 |
| GE CLAS Core: World Languages First Level Proficiency or elective course i | | 4 - 5 |

| Semester | | |
| Spring | | |
| PHYS:1400 | Basic Physics | 4 |
| GE CLAS Core: Values and Culture h | | 3 |
| GE CLAS Core: International and Global Issues h | | 3 |
| GE CLAS Core: World Languages Second Level Proficiency or elective course i | | 4 - 5 |

#### Third Year

| Semester | | |
| Fall | | |
| GHS:2000 or GHS:2320 | Introduction to Global Health Studies or Origins of Human Infectious Disease | 3 |
| BMB:3120 | Biochemistry and Molecular Biology I | 3 |
| Major: advanced microbiology course j | | 3 |
| Major: advanced microbiology course j | | 3 |
| GE CLAS Core: World Languages Third Level Proficiency or elective course i | | 4 - 5 |

| Semester | | |
| Spring | | |
| BMB:3130 | Biochemistry and Molecular Biology II | 3 |
| Major: advanced elective course k | | 3 |
| GE CLAS Core: Literary, Visual, and Performing Arts h | | 3 |
| GE CLAS Core: World Languages Fourth Level Proficiency or elective course i | | 4 - 5 |

| Semester | | |
| Fourth Year | | |
| Fall | | |
| Major: advanced elective course k | | 3 |
| Major: advanced microbiology course j | | 4 |
| Major: optional research | | 1 - 3 |
| GE CLAS Core: Historical Perspectives h | | 3 |
Elective course \( f \) \\
\textbf{Hours} \hspace{1cm} 2

\textbf{Spring} \\
Major: advanced microbiology course \( j \) \\
\hspace{1cm} 4

Major: optional research \\
\hspace{1cm} 1 - 3

GE CLAS Core: Social Sciences \( h \) \\
\hspace{1cm} 3

Elective course \( f \) \\
\hspace{1cm} 3

Elective course \( f \) \\
\hspace{1cm} 3

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

\textbf{Hours} \hspace{1cm} 14-16

\textbf{Total Hours} \hspace{1cm} 120-130

\( a \) 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.

\( b \) Fulfills a major requirement and may fulfill a GE requirement.

\( c \) Enrollment in chemistry courses requires completion of a placement exam.

\( d \) Other course options include BIOS:4120, MATH:1550, MATH:1850, STAT:3510; selecting a course that satisfies the Quantitative or Formal Reasoning GE requirement is recommended.

\( e \) Enrollment in math courses requires completion of a placement exam.

\( f \) 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.

\( g \) Students must earn a grade of C or higher in BIOL:1411, or in MICR:2157 and MICR:2158, in order to take more advanced Department of Microbiology and Immunology courses.

\( h \) 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.

\( i \) 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.

\( j \) Complete at least 14 s.h. of advanced microbiology and immunology courses (prefix MICR) numbered MICR:3147 or above, excluding MICR:3164; see the General Catalog for list of approved courses.

\( k \) See the General Catalog for list of approved courses.

\( l \) 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.