Microbiology, B.S.

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

Pre-Medicine 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, c 4
MATH:1460 Calculus for the Biological Sciences c, d, e 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 c, g 4
CHEM:1120 Principles of Chemistry II 4
ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3 - 4

GE CLAS Core: Diversity and Inclusion h 3

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 i, l 4 - 5
Elective course f 2

Hours 14-15

Spring
MICR:2157 General Microbiology 9 3
MICR:2158 General Microbiology Laboratory 9 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 i, l 4 - 5

Hours 16-17

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 Second Level Proficiency or elective course i, l 4 - 5

Hours 15-16

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 i 3
GE CLAS Core: Literary, Visual, and Performing Arts 3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course i, l 4 - 5

Hours 17-18

Fourth Year
Fall
Major: advanced microbiology course k 3
Major: advanced microbiology course k 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 k 3
Major: advanced microbiology course k 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)

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

- 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.
- Enrollment in chemistry courses requires completion of a placement exam.
- 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.
- Enrollment in math courses requires completion of a placement exam.
- 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.
- 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.
- 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.
- 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.
- Please see the General Catalog for list of approved courses.

### Scholar Track

#### Course Title Hours

#### Academic Career

**Any Semester**

#### GE CLAS Core: Sustainability **a**

| Hours | 0 |

#### First Year

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM:1110</td>
<td>Principles of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>MATH:1460</td>
<td>Calculus for the Biological Sciences</td>
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</tr>
<tr>
<td>ENGL:1200 or RHET:1030</td>
<td>The Interpretation of Literature or Rhetoric</td>
<td>3 - 4</td>
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#### Second Year

**Fall**

<table>
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<tr>
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<td>Diversity of Form and Function</td>
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<td>Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>MICR:2157</td>
<td>General Microbiology <strong>g</strong></td>
<td>3</td>
</tr>
<tr>
<td>MICR:2158</td>
<td>General Microbiology Laboratory <strong>g</strong></td>
<td>2</td>
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#### Third Year

**Fall**

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<tr>
<th>Course</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>GHS:2320 or GHS:2000</td>
<td>Origins of Human Infectious Disease or Introduction to Global Health Studies</td>
<td>3</td>
</tr>
<tr>
<td>BMB:3120</td>
<td>Biochemistry and Molecular Biology I</td>
<td>3</td>
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#### Fourth Year

**Fall**

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<tbody>
<tr>
<td>BMB:3130</td>
<td>Biochemistry and Molecular Biology II</td>
<td>3</td>
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#### Enrollments in Chemistry Courses Require Completion of a Placement Exam.

#### GE CLAS Core: Sustainability

- Students 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.

#### Enrollments in Math Courses Require Completion of a Placement Exam.

#### 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.

#### 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.

#### 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.

#### 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.

#### Please See the General Catalog for List of Approved Courses.

#### 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.

#### Please See Academic Catalog, 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.
Spring
Major: advanced microbiology course 4
Major: optional research 1 - 3
GE CLAS Core: Social Sciences 3
Elective course f 3
Elective course f 3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

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b Enrollment in chemistry courses requires completion of a placement exam.
c Fulfills a major requirement and may fulfill a GE requirement.
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.