Biochemistry, 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 seventh semester begins: PHYS:1611 Introductory Physics I or PHYS:1511 College Physics I, PHYS:1612 Introductory Physics II or PHYS:1512 College Physics II, BIOL:3150 Development of Senior Research Project, one semester of BIOL:3993 Undergraduate Biochemistry Research for students planning to take BIOL:4999 Advanced Undergraduate Biochemistry Research, BIOL:3120 Biochemistry and Molecular Biology I, BIOL:3130 Biochemistry and Molecular Biology II, BIOL:3140 Experimental Biochemistry, two science electives, and at least 90 s.h. earned toward the degree.

Before the eighth semester begins: CHEM:4431 Physical Chemistry I or CHEM:4432 Physical Chemistry II or BIOL:4241 Biophysical Chemistry I or BIOL:4242 Biophysical Chemistry II, a science elective, and at least 3 s.h. of BIOL:4999 Advanced Undergraduate Biochemistry Research.

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 Plan 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.

Biochemistry, B.S.

Course Title Hours

Academic Career

Any Semester

Students in good academic standing can switch from the B.A. to the B.S. degree program after completing one semester of organic chemistry (CHEM:2210 Organic Chemistry I or CHEM:2230 Organic Chemistry I for Majors).

First Year

Fall

CHEM:1110 Principles of Chemistry I 4
MATH:1850 Calculus I 4

Spring

CHEM:1120 Principles of Chemistry II 4
ENGL:1200 The Interpretation of Literature 4
MATH:1860 Calculus II 4
GE CLAS Core: Diversity and Inclusion 3

Second Year

Fall

BIOL:1411 Diversity of Form and Function 4
CHEM:2230 Organic Chemistry I for Majors 3
GE CLAS Core: Historical Perspectives 3
GE CLAS Core: World Languages First Level Proficiency or elective course 4

Spring

BIOL:1411 Diversity of Form and Function 4
CHEM:2240 Organic Chemistry II for Majors 3
CHEM:2410 Organic Chemistry Laboratory for Majors 3
Major: science elective (consult with advisor) 3
GE CLAS Core: World Languages Second Level Proficiency or elective course 4

Third Year

Fall

BIOL:3120 Biochemistry and Molecular Biology I 3
BIOL:3993 Undergraduate Biochemistry Research 3
PHYS:1611 Introductory Physics I a
PHYS:1511 or College Physics I 4
GE CLAS Core: Values and Culture e 3
GE CLAS Core: World Languages Second Level Proficiency or elective course 4

Spring

BIOL:3130 Biochemistry and Molecular Biology II 3
BIOL:3140 Experimental Biochemistry 2
BIOL:3150 Development of Senior Research Project 2
PHYS:1512 College Physics II a
PHYS:1612 or Introductory Physics II 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course 4

note:
a. Students are encouraged to complete major coursework as early as possible. Courses are usually offered in the order listed.
b. CHEM:1110 Principles of Chemistry I is offered in the Fall and CHEM:1120 Principles of Chemistry II is offered in the Spring.
c. MATH:1850 Calculus I is offered in the Fall.
d. GE CLAS Core courses listed above are required.
e. GE CLAS Core: World Languages First Level Proficiency or elective course.
### Elective course $^d$

**Hours** 16-17

#### Fourth Year

**Fall**

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOC:4999</td>
<td>Advanced Undergraduate Biochemistry Research</td>
<td>3</td>
</tr>
<tr>
<td>CHEM:4430 or BIOC:4241 or CHEM:4431</td>
<td>Principles of Physical Chemistry or Biophysical Chemistry I or Physical Chemistry I</td>
<td>3</td>
</tr>
</tbody>
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Major: science elective (consult with advisor) $^g$ 3

GE CLAS Core: International and Global Issues $^e$ 3

GE CLAS Core: Literary, Visual, and Performing Arts $^e$ 3

**Hours** 15

#### Spring

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<tr>
<td>BIOC:4999</td>
<td>Advanced Undergraduate Biochemistry Research</td>
<td>3</td>
</tr>
<tr>
<td>CHEM:4432 or BIOC:4242</td>
<td>Physical Chemistry II or Biophysical Chemistry II</td>
<td>3</td>
</tr>
</tbody>
</table>

Major: science elective (consult with advisor) $^g$ 3

Major: science elective (consult with advisor) $^g$ 3

GE CLAS Core: Social Sciences $^e$ 3

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

**Hours** 15

**Total Hours** 125-131

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$a$ Fulfills a major requirement and may fulfill a GE requirement.

$b$ Enrollment in chemistry courses requires completion of a placement exam.

$c$ Enrollment in math courses requires completion of a placement exam.

$d$ 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.

$e$ 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.

$f$ 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.

$g$ Students are required to complete 9 s.h. in advanced science electives approved by biochemistry advisor.

$h$ 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.