**Chemistry, BA**

### 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.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year. Typical chemistry course schedules and a regression list are available at Undergraduate Program in Chemistry on the Department of Chemistry website.

**Before the third semester begins:** math through MATH:1460 Calculus for the Biological Sciences, MATH:1550 Engineering Mathematics I: Single Variable Calculus, or MATH:1850 Calculus I; CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II, or equivalent coursework.


**Before the seventh semester begins:** two more courses in the major; PHYS:1511 College Physics I–PHYS:1512 College Physics II or PHYS:1611 Introductory Physics I–PHYS:1612 Introductory Physics II; and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** CHEM:4430 Principles of Physical Chemistry and one more course 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 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.

**Chemistry, BA**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Career</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GE CLAS Core: Sustainability</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Any Semester</strong></td>
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**First Year**

**Fall**

- CHEM:1110 Principles of Chemistry I\(^b\) 4
- ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3-4
- MATH:1440 Mathematics for the Biological Sciences 4
- GE CLAS Core: Diversity and Inclusion\(^d\) 3
- CSI:1600 Success at Iowa 2

**Hours** 16-17

**Spring**

- CHEM:1120 Principles of Chemistry II 4
- MATH:1460 Calculus for the Biological Sciences 4
- GE CLAS Core: World Languages First Level Proficiency or elective course\(^e\) 4-5
- Elective course\(^f\) 3

**Hours** 15-16

**Second Year**

**Fall**

- CHEM:2021 Fundamentals of Chemical Measurements 3
- CHEM:2230 Organic Chemistry I for Majors\(^g\) 3
- ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3-4
- GE CLAS Core: World Languages Second Level Proficiency or elective course\(^e\) 4-5
- Elective course\(^f\) 3

**Hours** 16-18

**Spring**

- CHEM:2240 Organic Chemistry II for Majors\(^h\) 3
- CHEM:2420 Organic Chemistry Laboratory for Majors\(^h\) 3
- STAT:3510 Biostatistics 3
- GE CLAS Core: Historical Perspectives\(^d\) 3
- GE CLAS Core: World Languages Third Level Proficiency or elective course\(^e\) 4-5

**Hours** 16-17

**Third Year**

**Fall**

- CHEM:3110 or CHEM:3120 Equilibria and Electrochemistry or Spectroscopy and Separations 3
- PHYS:1511 College Physics I 4
- GE CLAS Core: Values and Culture\(^d\) 3
- GE CLAS Core: World Languages Fourth Level Proficiency or elective course\(^e\) 4-5
- Elective course\(^f\) 3

**Hours** 17-18

**Spring**

- CHEM:3250 Inorganic Chemistry\(^h\) 3
- PHYS:1512 College Physics II 4
- Major: science elective course\(^f\) 3
- GE CLAS Core: Literary, Visual, and Performing Arts\(^d\) 3

**Hours** 16
### Fourth Year

#### Fall

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM:4430</td>
<td>Principles of Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Major:</td>
<td>science elective course</td>
<td>3</td>
</tr>
<tr>
<td>GE CLAS Core: International and Global Issues</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Elective course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Elective course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td><strong>15</strong></td>
<td></td>
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</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM:4450</td>
<td>Synthesis and Measurement</td>
<td>3</td>
</tr>
<tr>
<td>GE CLAS Core: Social Sciences</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Elective course</td>
<td>3</td>
<td></td>
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<tr>
<td>Elective course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Elective course</td>
<td>3</td>
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<tr>
<td>Degree Application: apply on MyUI before deadline</td>
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<tr>
<td>(typically in February for spring, September for fall)</td>
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<td></td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td><strong>15</strong></td>
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**Total Hours**: 126-132

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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 levels of a single language or two levels of two different languages in high school or college have satisfied the GE CLAS Core World Languages requirement. Students who have completed three levels of a single language may complete a fourth-level course in the same language or may choose an approved World Language and Cultural Exploration course. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Contact your academic advisor or CLAS Undergraduate Programs Office with questions concerning the World Languages requirement.
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) Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
h) Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
i) Typically CHEM:3110 is offered in fall semesters only and CHEM:3120 is offered spring semesters only. Check MyUI for course availability since offerings are subject to change.
j) Students are required to complete 6 s.h. of science electives chosen from a list of approved courses. Students who have used a course to fulfill another requirement for the major may not use that course as a science elective.
k) 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 Degree Services.