BA in Chemistry

Chemistry involves the understanding of the structure and reactivity of matter from atomic- and molecular-level perspective. Degrees in Chemistry involve training in analytical, inorganic, organic, and physical chemistry. Elective courses are also available allowing students to pursue interests in materials, biological, and other advanced areas of chemistry.

The Bachelor of Arts degree is designed for students whose career interests require a strong background in Chemistry or Biochemistry, but are also interested in acquiring expertise in other disciplines. The coursework for this degree provides a broad training, and does not include extensive advanced laboratory training. The degree is appropriate for students interested in applying to professional programs in medicine, dentistry, pharmacy and other health allied fields.

Admissions

See Admissions for information about entrance pathways and application instructions.

Degree Requirements

BA Chemistry Checklist (PDF)

Mathematics (choose one sequence)
- Calculus: MATH 124 (5), 125 (5), 126 (5)
- Honors Calculus: MATH 134 (5), 135 (5), 136 (5)

Physics (choose one sequence)
- Calculus-based: PHYS 121 (5), 122 (5), 123 (5)
- Algebra-based: PHYS 114 (4), 115 (4), 116 (4)

The calculus-based series is recommended. NOTE: One credit lab is included with each course in the calculus-based physics series. If algebra-based physics is taken, students must take one lab from below:

- One quarter of physics laboratory: PHYS 117, 118, 119 (1)

General Chemistry (choose one sequence)
- Regular: CHEM 142 (5), 152 (5), 162 (5)
- Honors: CHEM 145 (5), 155 (5), 165 (5)
- Accelerated: CHEM 143 (6), 153 (6)

Organic Chemistry (choose one sequence)
- Regular: CHEM 237 (4), 238 (4), 239 (4)
  - Laboratory: 241 (3), 242 (3)
Honors: CHEM 335 (4), 336 (4), 337 (4)
Laboratory: 346 (3), 347 (3)

Inorganic Chemistry
- CHEM 312 Lecture (3)

Analytical Lab
- CHEM 321 (5) Quantitative Analysis

Advanced Chemistry
- Eleven credits of numerically graded CHEM 400 level courses to include one of the following sequences:
  - CHEM 455 (3), 456 (3), 457 (3)
  - CHEM 452 (3), 453 (3)
  Additional 400-level chemistry courses, not previously mentioned, taken for a numerical grade. The two parts of this requirement must total eleven credits.

Advanced Chem Lab
- CHEM 317 (4) Inorganic Chem Lab or 461 (3) Physical Chemistry Lab

Sample Schedule
Research credits counted as electives, not major requirements in this example.

<table>
<thead>
<tr>
<th>Year</th>
<th>Autumn Courses</th>
<th>Winter Courses</th>
<th>Spring Courses</th>
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| 1st Year | Chem 142 (5)  
Math 124 (5)  
Electives (5) | Chem 152 (5)  
Math 125 (5)  
I&S (5)* | Chem 162 (5)  
Math 126 (5)  
English Composition (5) |
| 2nd Year | Chem 237 (4)  
Phys 121 (5)  
Foreign Language 101 (5) | Chem 238 (4)  
Chem 241 (3)  
Phys 122 (5)  
Foreign Language 102 (5) | Chem 239 (4)  
Chem 242 (3)  
Phys 123 (5)  
Foreign Language 103 (5) |
| 3rd Year | Chem 312 (3)  
Chem 321 (5)  
VLPA "W" (5)*  
Electives (5) | Chem 452 (3)  
VLPA (5)*  
Electives (5) | Chem 453 (3)  
VLPA (5)*  
Electives (5) |
| 4th Year | Advanced Chem Course (3)  
I&S "W" (5)*  
VLPA (5)*  
Electives (5) | Advanced Chem Course (2-3)  
I&S (5)*  
Electives (5) | Chem 317 (4) or 461 (3)  
I&S (5)*  
Electives (5) |

* VLPA = Visual, Literary and Performing Arts (VLPA) and I&S = Individuals and Societies (I&S). They are general education requirements. Students are expected to understand and complete all general education requirements as detailed in the General Catalog.

Undergraduate advisers can help set up individual schedules according to students' needs and constraints.

Grade Point Average Requirements
- This degree requires 180 credits.
- Minimum grade of 1.7 in chemistry courses required for the degree.
A cumulative grade point average of 2.0 is required for all chemistry courses counted toward the degree.

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