Chemistry is the science that studies the nature, structure, properties and reactions of matter at both the atomic and molecular level. The department offers several courses that are part of the General Education pattern. Students majoring in chemistry can complete the lower-division requirements for the major.

Natural Science is housed in the Chemistry department. NSCI 131 is a course designed for Liberal Studies majors transferring to CSU Fresno. No degrees are offered in Natural Science.

The most common career opportunities with a baccalaureate degree in chemistry include chemical lab technician, water purification technician, quality control coordinator, general laboratory work. Additionally, the major prepares students for transfer in any of several majors related to the chemical sciences such as food and drug inspector, industrial hygienist, materials scientist, chemist, geochemist, pharmaceutical sales. Please note that many of these careers require a bachelor’s degree or higher to meet minimum job requirements.

Transfer requirements in Chemistry are available in the Counseling Department. In all cases, students should consult with a counselor for specific transfer requirements.

Contact Information

Science Division Chair

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Dean of Science, Mathematics, and Engineering

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**Associate Degree**

- Associate of Science in Chemistry for Transfer (AS-T) ([https://catalog.cos.edu/areas-study/chemistry/associate-science-chemistry-transfer-as-t/](https://catalog.cos.edu/areas-study/chemistry/associate-science-chemistry-transfer-as-t/))

For a complete list of courses and descriptions visit: COURSES ([https://catalog.cos.edu/course-descriptions/](https://catalog.cos.edu/course-descriptions/))

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Hours:</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>CHEM 001</td>
<td>General Chemistry 1</td>
<td>5</td>
<td>3 Lecture/Discussion 6 Lab</td>
<td>MATH 230 and CHEM 020 or equivalent college course with a minimum grade of C. (C-ID CHEM110; C-ID CHEM120S includes CHEM 001 and 002)</td>
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<tr>
<td>CHEM 002</td>
<td>General Chemistry 2</td>
<td>5</td>
<td>3 Lecture/Discussion 6 Lab</td>
<td>CHEM 001 or equivalent college course with a minimum grade of C.</td>
</tr>
<tr>
<td>CHEM 010</td>
<td>Introduction to Chemistry</td>
<td>4</td>
<td>3 Lecture/Discussion 3 Lab</td>
<td>ENGL 261 or equivalent college course with a minimum grade of C or eligibility for ENGL 001 as determined by COS Placement Procedures (<a href="https://catalog.cos.edu/placement-procedures/">https://catalog.cos.edu/placement-procedures/</a>)</td>
</tr>
<tr>
<td>CHEM 012</td>
<td>Organic Chemistry 1</td>
<td>5</td>
<td>3 Lecture/Discussion 6 Lab</td>
<td>CHEM 002 or equivalent college course with a minimum grade of C. (C-ID CHEM150; C-ID CHEM160S includes CHEM 012 AND 013)</td>
</tr>
<tr>
<td>CHEM 013</td>
<td>Organic Chemistry 2</td>
<td>5</td>
<td>3 Lecture/Discussion 6 Lab</td>
<td>CHEM 012 or equivalent college course with a minimum grade of C. (C-ID CHEM160S - includes CHEM 012 AND 013)</td>
</tr>
</tbody>
</table>
CHEM 020 Introduction to General Chemistry 4unit(s)
Hours: 3 Lecture/Discussion
3 Lab

CHEM 020 is a one semester transferable college chemistry course designed to meet the needs of allied-health and non-science majors. The course is a study of the fundamental theories and laws of chemistry. The laboratory portion of the course involves experimentation and drawing conclusions from data. (C-ID CHEM101)

Advisory on Recommended Preparation: CHEM 253 or equivalent college course with a minimum grade of C.
Prerequisites: MATH 200 or equivalent college course with a minimum grade of C.

CHEM 021 Organic/Biological Chemistry 4unit(s)
Hours: 3 Lecture/Discussion
3 Lab

CHEM 021 is the second semester of a full year college chemistry course which meets the needs of the science-related major. Content focuses on structural configurations, properties and reactions of organic and biochemical compounds. Both qualitative and quantitative aspects of these are part of lecture and laboratory. (C-ID CHEM102)

Prerequisites: CHEM 020 or equivalent college course with a minimum grade of C.

NSCI 131 Chemistry and Physics for Educators 4unit(s)
Hours: 3 Lecture/Discussion
2 Lab
1 Other

A general principles science course for students transferring as Liberal Studies majors. Basic principles of chemistry and physics relevant to elementary education are stressed. Applying these topics to everyday experience is emphasized. The course is designed to meet only the science requirements of Liberal Studies programs at CSU Fresno. (C-ID CHEM 140 or C-ID PHYS 140)

Prerequisites: MATH 200 or MATH 205 or equivalent college course with a minimum grade of C.

Chemistry

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