**BACHELOR OF ARTS IN CHEMISTRY – CHEM ASSOCIATE DEGREE FOR TRANSFER ROADMAP**

This is a sample pathway for students who transfer to San Francisco State University in 2017–2018 with an AS-T in Chemistry. Thirty-four units in the major (CHEM 115/CHEM 215/CHEM 216, CHEM 233/CHEM 234, CHEM 335/CHEM 336, MATH 226/MATH 227, required PHYS sequence) and 33 units of lower division GE have been satisfied. Check with a major advisor about the most appropriate course sequence for you. **Degree completion guaranteed in 60 units; see the Associate Degree for Transfer (ADT) section for more information** (http://bulletin.sfsu.edu/undergraduate-admissions/transfer-students).

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
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<tr>
<td>CHEM 325</td>
<td>Inorganic Chemistry</td>
<td>3</td>
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<tr>
<td>CHEM 340 or CHEM 349</td>
<td>Biochemistry I or General Biochemistry</td>
<td>3</td>
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<tr>
<td>GE Area A: Written English Communication II (A4) or University Elective if A4 is met in transfer</td>
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<td>3</td>
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<tr>
<td>GE Area C: Arts (C1) or Humanities (C2) or Humanities: Literature (C3)</td>
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<td>3</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>CHEM 321 &amp; CHEM 322</td>
<td>Quantitative Chemical Analysis and Quantitative Chemical Analysis Laboratory</td>
<td>5</td>
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<tr>
<td>CHEM 390GW</td>
<td>Contemporary Chemistry and Biochemistry Research - GWAR</td>
<td>3</td>
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<tr>
<td>GE Area D: Social Sciences (D1) or U.S. History (D2) or U.S. and California Government (D3)</td>
<td></td>
<td>3</td>
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<tr>
<td>Upper Division GE: UD-B, UD-C, or UD-D</td>
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<td>3</td>
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<tr>
<td><strong>Third Semester</strong></td>
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<tr>
<td>CHEM 300 or CHEM 251 and CHEM 351</td>
<td>General Physical Chemistry I or Mathematics and Physics for Chemistry and Physical Chemistry I: Thermodynamics and Kinetics</td>
<td>3-6</td>
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<tr>
<td>Upper Division GE: UD-B, UD-C, or UD-D</td>
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<td>3</td>
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<tr>
<td>University Elective – Take Two or Three</td>
<td></td>
<td>6-9</td>
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<tr>
<td><strong>Fourth Semester</strong></td>
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<td></td>
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<tr>
<td>Upper Division GE: UD-B, UD-C, or UD-D</td>
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<td>3</td>
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<tr>
<td>U.S. and California Government (bulletin.sfsu.edu/undergraduate-education/graduation-requirements/#usg) or University Elective if U.S. and California Government met in transfer</td>
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<td>3</td>
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<tr>
<td>Major Division Requirement – Advanced Laboratory Elective</td>
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<td>3</td>
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<tr>
<td>University Elective – Take Two</td>
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<td>6</td>
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<tr>
<td><strong>Total Units</strong></td>
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<td>60</td>
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</tbody>
</table>

**To Do at SF State:**

Enough total units to reach 120 minimum for graduation; 40 units minimum at the upper division level; to include the following:
University-Wide Requirements: 15–24 Units
- ENG 214 or equivalent A4 course (0–3 units) if not taken before transfer
- American Institutions (0–6 units): US History, US Government, California State and Local Government requirements if not taken before transfer
- Lower division GE (6 units) – Area C (3 units in any subarea) and Area D (3 units in any subarea)
- Upper division GE, areas B, C and D (9 units)
- Students entering this major with the AS-T in Chemistry are not required to fulfill SF State Studies requirements.
- Complementary Studies is met in major with required PHYS and MATH courses.

Chemistry B.A.: 20–23 Units
Completed: CHEM 115/CHEM 215/CHEM 216, CHEM 233/CHEM 234, CHEM 335/CHEM 336, MATH 226/MATH 227, required PHYS sequence.
- Major Upper Division Requirements/GWAR (17-20 units)
- Major Advanced Laboratory Electives (3 units) – Consult with an advisor regarding selection of elective courses and check course co- and prerequisites before enrolling.

University Electives: 13 or More Units
Depends on course choices made at the community college, how transferred units are applied to the requirements above, and course choices at SF State. Some courses may meet more than one requirement, e.g. UD GE and the major. Upper division electives recommended in order to meet the minimum 40-unit requirement.