CHEMISTRY - BA, CHEMICAL EDUCATION TRACK

The Chemical Education Track provides the student an opportunity to obtain secondary teacher certification in addition to completion of the requirements for a degree in chemistry. Many students who plan to become high school chemistry teachers or to pursue a master's degree in chemical education will find this track attractive. Students must complete the requirements for secondary teacher certification as defined by the School of Education and Human Development (consultation with the School of Education and Human Development is required).

**Program Requirements**

<table>
<thead>
<tr>
<th>First Year</th>
<th></th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Credit Hours</strong></td>
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</tr>
<tr>
<td>ARSC 201</td>
<td>Experiences in Secondary Math and Science Classrooms</td>
<td>1</td>
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<tr>
<td>CHEM 100</td>
<td>Horizons in Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 119</td>
<td>Fundamentals of Chemistry I</td>
<td>1</td>
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<tr>
<td>ENGL 104</td>
<td>Composition and Rhetoric</td>
<td>3</td>
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<tr>
<td>MATH 151</td>
<td>Engineering Mathematics I</td>
<td>4</td>
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<tr>
<td>or MATH 171</td>
<td>or Calculus I</td>
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<tr>
<td>American history (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a>)</td>
<td>3</td>
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<th>Second Year</th>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>CHEM 227</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 231</td>
<td>Techniques of Organic Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 206</td>
<td>Newtonian Mechanics for Engineering and Science</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 226</td>
<td>Physics of Motion Laboratory for the Sciences</td>
<td>1</td>
</tr>
<tr>
<td>POLS 207</td>
<td>State and Local Government</td>
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<tr>
<td>Communication (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication</a>)</td>
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<td><strong>Fall</strong></td>
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<tr>
<td>CHEM 315</td>
<td>Fundamentals of Quantitative Analysis</td>
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<tr>
<td>CHEM 318</td>
<td>Quantitative Analysis Laboratory</td>
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<tr>
<td>CHEM 327</td>
<td>Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>TEFB 322</td>
<td>Teaching and Schooling in Modern Society</td>
<td>3</td>
</tr>
<tr>
<td>Creative arts (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts</a>)</td>
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<td>Social and behavioral sciences (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences</a>)</td>
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<th>Fourth Year</th>
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<td><strong>Fall</strong></td>
<td><strong>Credit Hours</strong></td>
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<tr>
<td>CHEM 326</td>
<td>Physical Chemistry Laboratory II</td>
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<tr>
<td>CHEM 481</td>
<td>Seminar</td>
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<td>Credit Hours</td>
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<tr>
<td>INST 210</td>
<td>Understanding Special Populations</td>
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<tr>
<td>TEFB 406</td>
<td>Science in the Middle and Secondary School</td>
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Select one of the following: 3

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<tr>
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<tr>
<td>BICH 410</td>
<td>Comprehensive Biochemistry I</td>
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<tr>
<td>BICH 411</td>
<td>Comprehensive Biochemistry II</td>
</tr>
<tr>
<td>BICH 440</td>
<td>Biochemistry I</td>
</tr>
<tr>
<td>BICH 441</td>
<td>Biochemistry II</td>
</tr>
<tr>
<td>CHEM 362</td>
<td>Descriptive Inorganic Chemistry</td>
</tr>
<tr>
<td>CHEM 415</td>
<td>Analytical Chemistry</td>
</tr>
<tr>
<td>CHEM 446</td>
<td>Organic Chemistry III</td>
</tr>
<tr>
<td>CHEM 456</td>
<td>Chemical Biology</td>
</tr>
<tr>
<td>CHEM 462</td>
<td>Inorganic Chemistry</td>
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<td>CHEM 464</td>
<td>Nuclear Chemistry</td>
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<td>CHEM 466</td>
<td>Polymer Chemistry</td>
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<tr>
<td>CHEM 468</td>
<td>Materials Chemistry of Inorganic Materials</td>
</tr>
<tr>
<td>CHEM 470</td>
<td>Industrial Chemistry</td>
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<tr>
<td>CHEM 483</td>
<td>Green Chemistry</td>
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<td>CHEM 489</td>
<td>Special Topics in...</td>
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General elective 3

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<tr>
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<th>Credit Hours</th>
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**Semester Credit Hours** 15

**Spring**

<table>
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<th>Course Code</th>
<th>Course Title</th>
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General electives 3,4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</table>

**Semester Credit Hours** 12

**Total Semester Credit Hours** 120

1. Select a section designated for chemistry majors.
2. This is a designated C- or W-course.
3. Select any course 100-499 not used elsewhere except AERS 100-299 (http://catalog.tamu.edu/undergraduate/course-descriptions/aers/); CHEM 222, CHEM 242; MATH 102, MATH 140, MATH 142, MATH 167, MATH 168; MLSC 100-299 (http://catalog.tamu.edu/undergraduate/course-descriptions/mlsc/); NVSC 100-299 (http://catalog.tamu.edu/undergraduate/course-descriptions/nvsc/); PHYS 201, PHYS 202, PHYS 205.
4. Students planning to become certified to teach should reserve this semester for a clinical teaching semester.

Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses and 3 hours of Cultural Discourse (http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/) courses. A course satisfying a Core category, a college/department requirement, or a general elective can be used to satisfy this requirement.

BA chemistry majors may take CHEM 485 or CHEM 491 as elective courses. The total hours of CHEM 485 and CHEM 491 taken on a graded (A-F) basis may not exceed 9. Additional hours of these courses may be taken on an S/U basis. A maximum of 6 hours of these courses may be included on the degree plan.

Electives should be chosen in consultation with the chemistry advisor and should be selected to meet the residency requirement (36 hours at 300-400-level must be taken at Texas A&M).