CHEMISTRY - BS, BIOLOGICAL-CHEMISTRY TRACK

The biological chemistry track has been designed for students interested in pursuing graduate study in biological chemistry, biochemistry, pharmacology or related fields or a career in the pharmaceutical industry. Students who wish to enter an MD/PhD program or medical, dental or pharmacy school will, in most cases, need to take an additional advanced biology course beyond those recommended for this track and should check the admission requirements for these programs with the Office of Professional School Advising. Courses in biology, biochemistry, genetics and statistics are recommended as electives.

Program Requirements

<table>
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<tr>
<th>Year</th>
<th>Fall</th>
<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td>CHEM 100 Horizons in Chemistry</td>
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<td></td>
<td>CHEM 119 Fundamentals of Chemistry I</td>
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<td>ENGL 104 Composition and Rhetoric</td>
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<td>MATH 151 Engineering Mathematics I or MATH 171 or Calculus I</td>
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<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>
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<tr>
<td></td>
<td>CHEM 120 Fundamentals of Chemistry II</td>
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<td>MATH 152 Engineering Mathematics II or MATH 172 or Calculus II</td>
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<td>PHYS 206 Newtonian Mechanics for Engineering and Science</td>
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<td>PHYS 226 Physics of Motion Laboratory for the Sciences</td>
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<tr>
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<td>CHEM 227 Organic Chemistry I</td>
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<td>CHEM 231 Techniques of Organic Chemistry</td>
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<td>PHYS 207 Electricity and Magnetism for Engineering and Science</td>
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<td>MATH 221 Several Variable Calculus</td>
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<td>MATH 251 Engineering Mathematics III</td>
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<tr>
<td></td>
<td>BIOL 111 Introductory Biology I</td>
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<td>CHEM 228 Organic Chemistry II</td>
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<td>CHEM 234 Organic Synthesis and Analysis</td>
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<td>CHEM 362 Descriptive Inorganic Chemistry</td>
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<td>STAT 211 Principles of Statistics I or STAT 302 or Statistical Methods</td>
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<tr>
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<td>BIOL 112 Introductory Biology II</td>
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<td>CHEM 315 Fundamentals of Quantitative Analysis</td>
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<td>CHEM 327 Physical Chemistry I</td>
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<td>POLS 206 American National Government</td>
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<td>CHEM 328 Physical Chemistry II</td>
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<td>POLS 207 State and Local Government</td>
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<td>GENE 301 Comprehensive Genetics or GENE 320/BIMS 320</td>
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<tr>
<td></td>
<td>BICH 410 Comprehensive Biochemistry I or BICH 440 or Biochemistry I</td>
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<td>CHEM 326 Physical Chemistry Laboratory II</td>
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<td>CHEM 415 Analytical Chemistry</td>
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<td>CHEM 491 Research</td>
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<td>Language, philosophy and culture (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/language-philosophy-culture">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/language-philosophy-culture</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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<tr>
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<td>BICH 411 Comprehensive Biochemistry II or BICH 441 or Biochemistry II</td>
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<td>CHEM 434 Analytical Instrumentation Laboratory</td>
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<td>CHEM 481 Seminar</td>
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<td>CHEM 491 Research</td>
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</table>
Select a section designated for chemistry majors.

This is a designated C- or W-course.

Three hours of CHEM 484 may be substituted for 3 hours of CHEM 491 in consultation with an advisor.

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.

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.

The total hours of CHEM 484, CHEM 485, CHEM 491 taken by BS chemistry majors on a graded (A–F) basis may not exceed 15. Additional hours of these courses may be taken on a satisfactory/unsatisfactory basis.

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).