# Bachelor of Science, Major in Chemistry for Professional Chemists

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<td>Bachelor of Science, Major in Chemistry for Professional Chemists</td>
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<tr>
<td></td>
<td>Core Curriculum</td>
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<tr>
<td></td>
<td>Component Area I (Communication)</td>
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<tr>
<td></td>
<td>Component Area II (Mathematics) ¹</td>
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<td></td>
<td>Component Area III (Life and Physical Sciences)²</td>
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<td>Component Area IV (Language, Philosophy, and Culture)</td>
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<td>Component Area V (Creative Arts)</td>
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<td>Component Area VI (American History)</td>
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<td>Component Area VII (Government/Political Science)</td>
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<td>Component Area VIII (Social and Behavioral Sciences)</td>
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<td>Degree Specific Requirements</td>
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<tr>
<td>ENGL 3330</td>
<td>Intro To Technical Writing</td>
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<td>MATH 1430</td>
<td>Calculus II</td>
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<td>PHYS 1301 &amp; PHYS 1101</td>
<td>General Phy-Mechanics &amp; Heat</td>
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<td>Major Core</td>
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<td>CHEM 1411</td>
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<td>General Chemistry II ²</td>
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<td>Organic Chemistry I: Lecture &amp; Organic Chemistry I Lab</td>
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<td>CHEM 2401</td>
<td>Quantitative Analysis</td>
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<td>CHEM 3438</td>
<td>Biochemistry I</td>
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<td>CHEM 4100</td>
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<td>CHEM 4440</td>
<td>Instrumental Analytical Chem</td>
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<td>CHEM 4448</td>
<td>Physical Chemistry I</td>
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<td>CHEM 4449</td>
<td>Physical Chemistry II</td>
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<td>CHEM 4260</td>
<td>Advanced Integrated Laboratory</td>
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<td>CHEM 4367</td>
<td>Advanced Inorganic Chemistry</td>
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<td>Minor (if required)</td>
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<td>A minor, including 6 advanced hours is required ⁴</td>
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<td>Electives</td>
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<td>Intro To Collegiate Studies (or general elective)</td>
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<td>Total Hours</td>
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¹ MATH 1420 satisfies the Core Curriculum requirement for Component Area II (Mathematics), the one semester credit hour Core Curriculum requirement for Component Area IX (Component Area Option), and the Degree Specific requirement.
CHEM 1411 and CHEM 1412 satisfy the Core Curriculum requirement for Component Area III (Life and Physical Science) and the Major requirement.

CHEM 3361, CHEM 3367, CHEM 3368, CHEM 3339, CHEM 4442, and CHEM 4443 are recommended.

A minor in MATH, for instance, only requires 10 additional hours beyond MATH 1420 and MATH 1430.

Notes

1. A grade of C or higher is required for CHEM 1411, CHEM 1412, CHEM 2323, CHEM 2123, CHEM 2325, CHEM 2125, CHEM 2401, and CHEM 4448, and in all required Physics and Mathematics courses.

2. A minor generally requires six semesters of coursework, a minimum of 18 credits (six advanced) in an approved field. Students should use elective and minor hours to satisfy the 42 advanced hour requirement.

Teacher Certification

Students seeking a background that will prepare them to teach chemistry at the secondary level might pursue a major in chemistry with a minor in secondary education, or they might major in chemistry, minor in another discipline, and seek alternative teaching certification.

Emphasis in Biochemistry-Biotechnology

Students seeking a background that will prepare them for the emerging technologies in biochemistry and biotechnology can select advanced courses that will lead to a major in chemistry and a minor in biology.

First Year

<table>
<thead>
<tr>
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<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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Second Year

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Third Year

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Fourth Year

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<th>Spring</th>
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<td>CHEM 4100</td>
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<td>CHEM 4367</td>
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<td>14-15</td>
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Total Hours: 120-121
Satisfies Core Curriculum requirement for Component Area III (Life and Physical Science).
Satisfies Core Curriculum requirement for Component Area I (Communications).
Satisfies Core Curriculum requirement for Component Area VI (U.S. History).
Satisfies Core Curriculum requirement for Component Area II (Mathematics).
Or general elective.
A minor requires 6 semester credit hours of coursework, a minimum of 18 semester credit hours (6 advanced) in an approved field.
Satisfies Core Curriculum requirement for Component Area VII (Political Science/Government).
CHEM 3339, CHEM 3361, CHEM 3367, CHEM 3368, CHEM 4442, CHEM 4443 are recommended.

Notes

1. A grade of C or higher is required for CHEM 1411, CHEM 1412, CHEM 2323, CHEM 2123, CHEM 2325, CHEM 2125, CHEM 2401, and CHEM 4448, and in all required Physics and Mathematics courses.
2. Students should use elective and minor hours to satisfy the 42-advanced hour requirement. Advanced hours are 3000 and 4000 level courses.