CHEMISTRY, B.A.

REQUIREMENTS

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

All undergraduate students at the University of Wisconsin–Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (http://guide.wisc.edu/undergraduate/#requirementsforundergraduatetext) section of the Guide.

General Education
- Breath—Humanities/Literature/Arts: 6 credits
- Breath—Natural Science: 4 to 6 credits, consisting of one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits
- Breath—Social Studies: 3 credits
- Communication Part A & Part B *
- Ethnic Studies *
- Quantitative Reasoning Part A & Part B *

* The mortarboard symbol appears before the title of any course that fulfills one of the Communication Part A or Part B, Ethnic Studies, or Quantitative Reasoning Part A or Part B requirements.

COLLEGE OF LETTERS & SCIENCE DEGREE REQUIREMENTS: BACHELOR OF ARTS (B.A.)

Students pursuing a bachelor of arts degree in the College of Letters & Science must complete all of the requirements below. The College of Letters & Science allows this major to be paired with either a bachelor of arts or a bachelor of science curriculum.

BACHELOR OF ARTS DEGREE REQUIREMENTS

Mathematics
- Complete the University General Education Requirements for Quantitative Reasoning A (QR-A) and Quantitative Reasoning B (QR-B) coursework.

Foreign Language
- Complete the fourth unit of a foreign language; OR
- Complete the third unit of a foreign language and the second unit of an additional foreign language.

L&S Breadth
- 12 credits of Humanities, which must include 6 credits of literature; and
- 12 credits of Social Science; and
- 12 credits of Natural Science, which must include one 3+ credit Biological Science course and one 3+ credit Physical Science course.

Mathematics (1 course)
- 4-5 credits
  - MATH 222 Calculus and Analytic Geometry 2
  - MATH 276 Topics in Calculus II

Physics (1 course)
- 10 credits
  - PHYSICS 207 General Physics
  - PHYSICS 201 General Physics
  - PHYSICS 247 A Modern Introduction to Physics

Chemistry Core Courses
- Complete at least 108 credits.

Depth of Intermediate/Advanced work
- Complete at least 60 credits at the intermediate or advanced level.

Major
- Declare and complete at least one major.

Total Credits
- Complete at least 120 credits.

UW-Madison Experience
- 30 credits in residence, overall; and
- 30 credits in residence after the 86th credit.

Quality of Work
- 2.000 in all coursework at UW–Madison
- 2.000 in Intermediate/Advanced level coursework at UW–Madison

NON–L&S STUDENTS PURSUING AN L&S MAJOR

Non–L&S students who have permission from their school/college to pursue an additional major within L&S only need to fulfill the major requirements. They do not need to complete the L&S Degree Requirements above.

REQUIREMENTS FOR THE MAJOR

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**ADVANCED CHEMISTRY AND LABORATORY**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 116</td>
<td>Chemical Principles II (1 credit counts towards requirements)</td>
<td>3</td>
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<tr>
<td>CHEM/ M S &amp; E 421</td>
<td>Polymeric Materials</td>
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<tr>
<td>CHEM/CBE 505</td>
<td>Aspects of Industrial Chemistry and Business Fundamentals</td>
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<tr>
<td>CHEM 509</td>
<td>Senior Seminar</td>
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<td>CHEM 511</td>
<td>Advanced Inorganic Chemistry</td>
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<tr>
<td>CHEM 524</td>
<td>Chemical Instrumentation (2 credits count towards requirement)</td>
<td>4</td>
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<tr>
<td>CHEM 547</td>
<td>Advanced Organic Chemistry</td>
<td></td>
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<tr>
<td>CHEM 555</td>
<td>Study Abroad in Advanced Chemistry</td>
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<tr>
<td>CHEM 565</td>
<td>Biophysical Chemistry (1 credit counts towards requirement)</td>
<td>3</td>
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<tr>
<td>CHEM 575</td>
<td>Advanced Topics in Chemistry</td>
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<tr>
<td>CHEM 605</td>
<td>Spectrochemical Measurements</td>
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<tr>
<td>CHEM 629</td>
<td>Atmospheric Chemical Mechanisms</td>
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<tr>
<td>CHEM 654</td>
<td>Materials Chemistry of Polymers</td>
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<tr>
<td>BIOCHEM 501</td>
<td>Introduction to Biochemistry</td>
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<tr>
<td>or BIOCHEM 507 General Biochemistry I</td>
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<tr>
<td>BIOCHEM 508</td>
<td>General Biochemistry II</td>
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<td>BIOCHEM/ NUTR SCI 510</td>
<td>Nutritional Biochemistry and Metabolism</td>
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<td>BIOCHEM 625</td>
<td>Mechanisms of Action of Vitamins and Minerals</td>
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<td>CBE 440</td>
<td>Chemical Engineering Materials</td>
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<td>CBE 540</td>
<td>Polymer Science and Technology</td>
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<tr>
<td>CBE 547</td>
<td>Introduction to Colloid and Interface Science</td>
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**Additional Laboratory Work**

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<thead>
<tr>
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<tbody>
<tr>
<td>CHEM 346</td>
<td>Intermediate Organic Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 524</td>
<td>Chemical Instrumentation (1 credit counts towards requirement)</td>
<td>4</td>
</tr>
</tbody>
</table>

**RESIDENCE AND QUALITY OF WORK**
- 2.000 GPA in all CHEM and major courses
- 15 credits in CHEM, taken on the UW–Madison campus

**HONORS IN THE MAJOR**

Students may declare Honors in the Chemistry Major in consultation with the chemistry major advisor (https://www.chem.wisc.edu/content/undergraduate-advising/). To be admitted to the Honors Program in Chemistry, students must have declared a major in chemistry and achieved a 3.200 overall GPA. They must also have achieved a 3.200 GPA in all CHEM courses taken and courses accepted for the major.

**HONORS IN THE CHEMISTRY MAJOR REQUIREMENTS**

To earn Honors in the Major in Chemistry, students must satisfy both the requirements for the major (above) and the following additional requirements:

- Earn a 3.3000 overall university GPA
- Earn a 3.300 GPA for all CHEM courses and all major courses
- Complete an additional 3 credits, for a total of 8 credits, of advanced non-laboratory work. This requirement is met by the same credits and courses that are accepted for "Advanced Non-laboratory Work" in the regular major.
- Complete a two-semester Senior Honors Thesis in CHEM 681 Senior Honors Thesis and CHEM 682 Senior Honors Thesis, for a total of 6 credits.

**FOOTNOTES**

1. Enrollment in CHEM 115 and CHEM 116 is by invitation only. Entering first-year students are screened on the basis of high school record and placement scores, and additional information is sent to those who might be eligible.
CHEM 343 must be taken first, followed by CHEM 345. CHEM 344 may be
taken concurrently with or after CHEM 345.

One credit from each of CHEM 116 and CHEM 565 count toward the
required 5 credits of Advanced Non-laboratory Coursework.

Only 2 of the 3 credits from CHEM 524 count towards Advanced Non-
laboratory Coursework. The remaining 1 credit counts towards the
Additional Laboratory Work requirement.

**UNIVERSITY DEGREE REQUIREMENTS**

**Total Degree**
To receive a bachelor's degree from UW–Madison,
students must earn a minimum of 120 degree credits.
The requirements for some programs may exceed 120
degree credits. Students should consult with their college
or department advisor for information on specific credit
requirements.

**Residency**
Degree candidates are required to earn a minimum of 30
credits in residence at UW–Madison. "In residence" means
on the UW–Madison campus with an undergraduate
degree classification. "In residence" credit also includes
UW–Madison courses offered in distance or online
formats and credits earned in UW–Madison Study
Abroad/Study Away programs.

**Quality of Work**
Undergraduate students must maintain the minimum
grade point average specified by the school, college, or
academic program to remain in good academic standing.
Students whose academic performance drops below
these minimum thresholds will be placed on academic
probation.