CHEMISTRY, A.C.S., GENERAL EMPHASIS, COMPREHENSIVE MAJOR

(Code 100-007)

University Requirements

GRADUATION REQUIREMENTS FOR BACCALAUREATE DEGREE

Credit Requirements

Minimum total for graduation 1
Upper division credits (courses numbered 300 and higher) 39
Liberal Education Core (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header1)
Academic Concentrations (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header16)
Grade Point Requirements (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header14) 2

<table>
<thead>
<tr>
<th>Total</th>
<th>2.00 average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident</td>
<td>2.00 average</td>
</tr>
<tr>
<td>Major</td>
<td>2.00 average</td>
</tr>
<tr>
<td>Minor</td>
<td>2.00 average</td>
</tr>
<tr>
<td>Certificate</td>
<td>2.00 average</td>
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</tbody>
</table>

University Residency Requirements (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header15)

| Minimum total | 30 |
| Senior year | 23 |
| Major, Standard, upper division in residence | 12 |
| Major, Comprehensive, upper division in residence | 21 |
| Certificate | 25 percent of credits |

Procedures Required for Graduation

Obtain admission to the degree program and/or the College offering it.
Apply for graduation on CampS.

1 Certain programs exceed this minimum.
2 See special requirements in each College.

Applicability of Credits Toward Graduation

Junior College or Two-Year College Credits. A maximum of 72 semester credits earned in a junior college or two-year college will be accepted as degree credits at UW-Eau Claire.

Extension Credits. Credits earned in credit outreach courses offered by UW-Eau Claire are treated as resident credits. Credits earned in extension courses offered by other units of the University of Wisconsin System are treated as transfer credits. All other (non-UW) extension and correspondence credits are normally limited to one-fourth of the total required for graduation from any curriculum.

WTCS Credits. A maximum of 72 semester credits earned in college parallel programs at Madison Area Technical College, Milwaukee Area Technical College, Nicolet Area Technical College, or Chippewa Valley Technical College may be accepted as degree credits at UW-Eau Claire. A set number of general education courses will be accepted from other technical schools. Occupational and technical courses may also be considered for transfer if the quality and content of the course work from the technical college is judged to be comparable to course work at UW-Eau Claire. Refer to the Transfer Credit Wizard (https://my.uwec.edu/psp/PUBLIC/EMPLOYEE/HRMS/c/EAU_SS_CUSTOM.EAU_TRNCRDWZ.GBL) or contact the UW-Eau Claire Admissions Office for information about the current transfer policy.

USAFI Credit. UW-Eau Claire will accept up to 32 semester credits for work done through the United States Armed Forces Institute, under the provision for non-UW correspondence credit (see Extension Credits above).

Activity Credit (band, chorus, drama, KINS 100-184 courses) Students may count toward graduation no more than one credit of KINS 110-184 courses. Students may count toward graduation no more than four credits earned in any single activity course and no more than 12 credits resulting from any combination of activity courses (excluding KINS 110-184 courses).

Other Restricted Credits. For other University restrictions, see the following: Cooperative Education; Credit by Examination; Satisfactory/Unsatisfactory Registration; Transfer of Credits. College or departmental restrictions may also be placed on Independent Study (399-499 courses), Directed Study (395-495), and other types of credits.

APPLICABILITY OF CREDITS TOWARD GRADUATION

Credit Restrictions

Satisfactory/Unsatisfactory
Total degree credit maximum 12
Major, Standard maximum 1 course
Major, Comprehensive maximum 2 courses
Minor maximum 1 course

Credit by Examination
Total degree credit maximum ¼ of total
Major or minor maximum ½ of total

Two-Year College Credits
Total degree credit maximum 72 credits

Activity credit (band, chorus, drama, KINS 100-184)
Total KINS 100-184 maximum 1 credit
Total Band, chorus, drama maximum 12 credits
Single course band, chorus, drama maximum 4 credits

Extension credits
UW-System no maximum
Other extension correspondence maximum ¼ of total

USAFI
USAFI maximum 32 credits
Liberal Education Core
The University of Wisconsin-Eau Claire measures learning outcomes to ensure that its graduates have achieved a liberal education and prepared themselves to contribute to a complex society. Upon graduation, each undergraduate will have met the five learning goals of our liberal education core and the 12 learning outcomes they comprise.

LIBERAL EDUCATION CORE REQUIREMENTS

Knowledge Goal
Knowledge Outcome 1 (K1): Natural Sciences (http://catalog.uwec.edu/undergraduate/attribute-k1/) Two (2) learning experiences

One experience in laboratory science must be selected from either K1 or K2.

Knowledge Outcome 2 (K2): Social Sciences (http://catalog.uwec.edu/undergraduate/attribute-k2/) Two (2) learning experiences

One experience in laboratory science must be selected from either K1 or K2.

Knowledge Outcome 3 (K3): Humanities (http://catalog.uwec.edu/undergraduate/attribute-k3/) Two (2) learning experiences

Knowledge Outcome 4 (K4): Fine Arts (http://catalog.uwec.edu/undergraduate/attribute-k4/) One (1) learning experience

Skills Goal
Skills Outcome 1 (S1): Written and Oral Communication (http://catalog.uwec.edu/undergraduate/attribute-s1/) Two (2) learning experiences

One S1 must meet the University Writing Requirement (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header10)

Skills Outcome 2 (S2): Mathematics (http://catalog.uwec.edu/undergraduate/attribute-s2/) One (1) learning experience

One S2 to meet the University Mathematics Requirement (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header11)

Skills Outcome 3 (S3): Creativity (http://catalog.uwec.edu/undergraduate/attribute-s3/) One (1) learning experience

Responsibility Goal
Responsibility Outcome 1 (R1): Equity, Diversity, and Inclusivity (http://catalog.uwec.edu/undergraduate/attribute-r1/) Two (2) learning experiences

One R1 must satisfy Design for Diversity (http://catalog.uwec.edu/undergraduate/attribute-DDIV/#header13)

Responsibility Outcome 2 (R2): Global Perspectives (http://catalog.uwec.edu/undergraduate/attribute-r2/) One (1) learning experience

Responsibility Outcome 3 (R3): Civic and Environmental Issues (http://catalog.uwec.edu/undergraduate/attribute-r3/) One (1) learning experience

Integration Goal
Integration Outcome 1 (I1): Integration (http://catalog.uwec.edu/undergraduate/attribute-i1/) Two (2) learning experiences

Service-Learning Goal
Service-Learning (http://catalog.uwec.edu/undergraduate/attribute-SL/#header13) 30 hours

College Degree Requirements
Bachelor of Arts or Bachelor of Science Degree (B.A./B.S.)

University Graduation Requirements. All candidates for degrees must fulfill the requirements for credits, curriculum, GPA, and University residency as specified in the section of this catalog titled University Graduation Requirements (http://catalog.uwec.edu/undergraduate/graduation-requirements/).

College Graduation Requirements: Grade Point Averages. All candidates for degrees in the College of Arts and Sciences must earn minimum resident and total GPAs of 2.00 in the major, the minor, and the certificate. The resident and total GPAs for the major are computed using all attempted credits applicable to the major including those offered by departments other than the major department. The resident and total GPAs for the minor and the certificate are computed similarly.

Major-Minor and Major-Certificate Requirements. A standard major (a minimum of 36 credits) must be supplemented by a minor (a minimum of 24 credits) or by a certificate (12 to 18 credits) to meet graduation requirements for completing a first and second degree program. No minor or certificate is required with a Comprehensive Major (60 or more credits) or with two majors of 36 or more credits each.

Certain degree programs, which include Comprehensive Majors, may require more than the minimum of 120 credits for graduation.

Acceptable academic program combinations are determined at the college level. A major and a minor or a major and certificate or two majors (if available) may not be elected in the same department or program, except in the approved combinations listed here (http://catalog.uwec.edu/undergraduate/arts-sciences/#academicprogramtext).

College Credits. Earn at least 90 credits in courses offered by the College of Arts and Sciences.

Bachelor of Arts Degree in the College of Arts and Sciences (B.A.)

Fulfillment of all University Graduation Requirements (which includes the Liberal Education Core); all College-level degree requirements (major and minor/certificate emphases, GPAs, earning at least 90 credits in Arts and Sciences course work); foreign language competency at the 102 level. Foreign language competency may be met in one of two ways: (1) Achieve a score on the foreign language placement test that qualifies the student to enter the 201-level course in a foreign language. (2) Earn a grade of at least C (not C-) or a mark of S in a 102-level foreign language course (or AIS 112 or AIS 122 / LANG 122 or CSD 103).

Bachelor of Science Degree in the College of Arts and Sciences (B.S.)

Fulfillment of all University Graduation Requirements (which includes the Liberal Education Core); all College-level degree requirements (major and minor/certificate emphases, GPAs, earning at least 90 credits in Arts and Sciences course work); mathematics competency at the MATH 111, MATH 112
or MATH 113 level. Mathematics competency can be met in one of three ways: 
(1) Achieve a score on the mathematics placement test that qualifies the 
student to enter MATH 114. (2) Earn a grade of at least C (not C-) or a mark of 5 
in MATH 111, MATH 112, or MATH 113. (3) Achieve a satisfactory score on the 
MATH 112 competency test. This test may be attempted no more than two 
times.

Major Requirements
(Code 100-007)

The A.C.S. General Emphasis Major is designed to prepare students to function 
effectively and professionally as practicing chemists, in graduate programs 
and/or in careers in government or industry labs. It offers effective preparation 
for immediate employment or matriculation to graduate school.

Core Requirements for A.C.S. and Liberal Arts 
Chemistry Majors

A minimum of 63-semester credits, including:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 103</td>
<td>General Chemistry I &amp; CHEM 104</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>General Chemistry I Lecture &amp; CHEM 106 &amp; CHEM 109</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 213</td>
<td>Quantitative Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 218</td>
<td>Introduction to Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 325</td>
<td>Organic Chemistry I with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 326</td>
<td>Organic Chemistry II with Laboratory</td>
<td>4</td>
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</tbody>
</table>

Two of the following: 4-5

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 420</td>
<td>Advanced Synthesis Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 438</td>
<td>Physical Analysis Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 453</td>
<td>Biochemistry Laboratory</td>
<td></td>
</tr>
</tbody>
</table>

Electives

Take 2 courses from the following. At least one of the courses must be CHEM 318, CHEM 401, CHEM 426, or CHEM 491

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CHEM 304</td>
<td>Environmental Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 318</td>
<td>Bioinorganic Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 361</td>
<td>Molecules and Medicine</td>
<td></td>
</tr>
<tr>
<td>CHEM 401</td>
<td>Inorganic Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 411</td>
<td>Survey of Industrial Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 426</td>
<td>Modern Organic Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 460</td>
<td>Polymer Chemistry</td>
<td></td>
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<tr>
<td>CHEM 491</td>
<td>Special Topics</td>
<td></td>
</tr>
<tr>
<td>CHEM 497</td>
<td>Independent Study (ACS)</td>
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</tbody>
</table>

Total Credits 24-25

1 Only six credits of the CHEM 103/CHEM 104 or CHEM 105/CHEM 106/CHEM 109 sequence are credited to the major.

Capstone Experience for Chemistry Majors

The capstone experience is met by completing CHEM 411 for 
chemistry with business emphasis majors, and 
by CHEM 420, CHEM 438, CHEM 453 or CHEM 497 for other chemistry majors.

Comprehensive Major: Chemistry, A.C.S., General 
Emphasis

Requirements

In addition to the chemistry core and required mathematics/physics courses, 
students must complete the following course work:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 344</td>
<td>Modern Applied Separations and Spectrometry</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 352</td>
<td>Fundamentals of Biochemistry</td>
<td>4</td>
</tr>
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</table>