

CHEMISTRY, A.C.S., MATERIALS SCIENCE EMPHASIS, COMPREHENSIVE MAJOR

(Code 100-008)

University Requirements

| Code | Title | Credits |
|---|--|-----------------------|
| GRADUATION REQUIREMENTS FOR BACCALAUREATE DEGREE | | |
| Credit Requirements | | |
| | Minimum total for graduation ¹ | 120 |
| | Upper division credits (courses numbered 300 and higher) | 39 |
| | Liberal Education Core | 36 |
| | Academic Concentrations | |
| Grade Point Requirements ² | | |
| | Total | 2.00 average |
| | Resident | 2.00 average |
| | Major | 2.00 average |
| | Minor | 2.00 average |
| | Certificate | 2.00 average |
| University Residency Requirements ³ | | |
| | 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.
³ See special requirements for the College of Education and Human Sciences.

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 four learning goals of our liberal education core and the 11 learning outcomes they comprise.

| Code | Title | Credits |
|--|--|------------------------------|
| LIBERAL EDUCATION CORE REQUIREMENTS | | |
| | | a minimum of 36 credits |
| Knowledge Goal | | |
| | Knowledge Outcome 1 (K1): Natural Sciences | Two (2) learning experiences |

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|---|------------------------------|
| One experience in laboratory science must be selected from either K1 or K2. | |
| Knowledge Outcome 2 (K2): Social Sciences | Two (2) learning experiences |
| One experience in laboratory science must be selected from either K1 or K2. | |
| Knowledge Outcome 3 (K3): Humanities | Two (2) learning experiences |
| One experience in laboratory science must be selected from either K1 or K2. | |
| Knowledge Outcome 4 (K4): Fine Arts | One (1) learning experience |

Skills Goal

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|---|------------------------------|
| Skills Outcome 1 (S1): Written and Oral Communication | Two (2) learning experiences |
| One S1 must meet the University Writing Requirement | |
| Skills Outcome 2 (S2): Mathematics | One (1) learning experience |
| One S2 to meet the University Mathematics Requirement | |
| Skills Outcome 3 (S3): Creativity | One (1) learning experiences |

Responsibility Goal

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|---|------------------------------|
| Responsibility Outcome 1 (R1): Equity, Diversity, and Inclusivity | Two (2) learning experiences |
| One R1 must satisfy Design for Diversity | |
| Responsibility Outcome 2 (R2): Global Perspectives | One (1) learning experiences |
| Responsibility Outcome 3 (R3): Civic and Environmental Issues | One (1) learning experiences |

Integration Goal

| | |
|---|------------------------------|
| Integration Outcome 1 (I1): Integration | Two (2) learning experiences |
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Service-Learning Goal

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| Service-Learning | 30 hours |
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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.

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.

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 S 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

Chemistry students with an interest in the rapidly growing field of materials science can obtain a basic materials background with a strong foundation in chemistry. This is especially useful for students interested in graduate work or employment in materials or polymer chemistry.

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

A minimum of 64 semester credits, including:

Chemistry Core

Select one of the following:¹ 6

CHEM 115 Chemical Principles

CHEM 103 General Chemistry I
& CHEM 104 and General Chemistry II

Required:

CHEM 213 Quantitative Analysis 4

CHEM 218 Introduction to Inorganic Chemistry 3

CHEM 325 Organic Chemistry I with Laboratory 4

CHEM 326 Organic Chemistry II with Laboratory 4

Additional Required Courses

PHYS 231 University Physics I 10

& PHYS 232 and University Physics II

| | | |
|------------------------|-------------------------------|----|
| MATH 114 & MATH 215 | Calculus I and Calculus II | 8 |
| Total Credits | | 39 |

¹ Only six credits of the CHEM 103/CHEM 104 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., Materials Science Emphasis

Requirements

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

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|------------------------|---|----|
| CHEM 352 | Fundamentals of Biochemistry | 4 |
| CHEM 433 & CHEM 434 | Physical Chemistry I and Physical Chemistry II | 8 |
| MSE 221 | Living in a Materials World | 3 |
| MSE 256 | Introduction to Computer Aided Design | 1 |
| MSE 315 | Materials Characterization | 4 |
| CHEM 420 | Advanced Synthesis Laboratory | 2 |
| MSCI 484 | Materials Science Capstone I | 1 |
| MSCI 485 | Materials Science Capstone II | 2 |
| Total Credits | | 25 |