

BIOLOGY, MICROBIOLOGY EMPHASIS, COMPREHENSIVE MAJOR

Liberal Arts (Code 080-002)

University Requirements

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 (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header1)	36
Academic Concentrations (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header16)	
Grade Point Requirements (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header14) ²	
Total	2.00 average
Resident	2.00 average
Major	2.00 average
Minor	2.00 average
Certificate	2.00 average
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		a minimum of 36 credits
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/#academicprogramstext>).

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 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

Liberal Arts (Code 080-002)

This emphasis differs from the Biochemistry/Molecular Biology comprehensive major in that it provides more in-depth exposure to topics in microbiology including virology, immunology, and bacteriology. It is excellent preparation for careers in health science, industry, and for graduate training in microbiology and related fields.

The emphasis requires completion of the core, the required credits as listed below, and biology electives to total at least 60 credits.

Core Requirements for All Biology Majors

Ecology and Environmental Biology Emphasis (Code 080-001); Microbiology Emphasis (Code 080-002); Biology, Liberal Arts (Code 080-203).

Code	Title	Credits
BIOL 221	Foundations of Biology I	4
BIOL 222	Foundations of Biology II	3
BIOL 223	Foundations of Biological Inquiry	2
Total Credits		9

Core Requirements for Biology, Liberal Arts

All students who pursue a Liberal Arts Comprehensive Major in Biology are also required to complete MATH 114, and CHEM 105, CHEM 106, and CHEM 109, or CHEM 115, in addition to the 60 credits required for the major.

Biology, Microbiology Emphasis, Comprehensive Major

Code	Title	Credits
Required Courses		
BIOL 305	Molecular and Cell Biology	4
BIOL 323	Genetics	3
BIOL 324	Genetics Inquiry	2
BIOL 361	Biology of Microorganisms	5
BIOL 402	Current Topics in Virology and Immunology	4
CHEM 325	Organic Chemistry I with Laboratory	4
CHEM 326	Organic Chemistry II with Laboratory	4
CHEM 352	Fundamentals of Biochemistry	4
Elective Courses		14

At least two courses from the following:

BIOL 306	Infectious Disease Biology
BIOL 371	Medical Mycology
BIOL 400	Medical Microbiology
BIOL 405	Advanced Cell and Molecular Lab
BIOL 409	Molecular Genetics
PH 450	Epidemiology

Program Learning Outcomes

Students completing this program will be expected to meet the following learning outcomes:

- Demonstrate an understanding of foundational biological principles in the areas of cell/molecular biology, genetics, evolution, ecology, diversity of life, and structure & function of organisms.
- Understand and apply basic research methods in biology including research design, data analysis, and communication.
- Work collaboratively to explore and solve problems.
- Apply theories, concepts, findings, and methods of biology to problems/issues in society.
- Understand how biological theories, concepts, findings, and methods relate to other disciplines.
- Demonstrate competence in mathematics, statistics, and computer technology as tools for revealing and characterizing complex patterns in biological systems.
- Understand and apply scientific reasoning and methods in learning science and/or in conducting biological research.
- Communicate scientific ideas and results in a variety of formats.
- Understand how to organize and evaluate data/information related to microbes using field-specific recommended structures and criteria.