Biology Major: Conservation Biology Concentration - Bachelor of Science (BS)

Major requirements

(All colleges, excluding teacher certification programs)

39 credits (67-70 total credits including CHM, MTH, and GEO requirements)

Each student must have a minimum of three 400 level BIO credits (excluding BIO 450, BIO 479, BIO 489, BIO 491, BIO 495, and BIO 499) to fulfill requirements of the major.

Code	Title	Credits
Core		
BIO 105	General Biology	4
BIO 203	Organismal Biology	4
BIO 291	Advancing Biological Science	2
BIO 306	Genetics	4
BIO 307	Ecology	3
BIO 315	Cell Biology	4
or MIC 230	Fundamentals of Microbiology	
BIO 419	Quantitative Methods in Ecology	3
Electives		
Select 15 credits of elective from the following:		15
BIO 302	Introductory Plant Identification	
BIO 304	Plant Biology	
BIO 308	Conservation Biology	
BIO 320	Forest Pathology	
BIO 321	Ornithology	
BIO 337	Plant Physiology	
BIO 341	Limnology	
BIO 401	Comparative Vertebrate Anatomy	
BIO 404	Plant Systematics and Evolution	
BIO 405	Aquatic and Wetland Vascular Plants	
BIO 406	Parasitology	
BIO 412	Mycology	
BIO 414	Freshwater Invertebrate Zoology	
BIO 420	Applied Mycology	
BIO 422	Ichthyology	
BIO 429	Evolution	
BIO 441	Aquatic Toxicology	
BIO 442	Plant Microbe Interactions	
BIO 444	Entomology	
BIO 446	Animal Behavior	
BIO 447	Standard Methods/Quality Assurance Water Analyses	
BIO 456	Plant Ecology	
BIO 458	Comparative Animal Physiology	
BIO 461	River Navigation and Sampling Techniques	
BIO 464	Stream and Watershed Ecology	
BIO 473	Marine Biology	
BIO 476	Ecosystem Ecology	
BIO 488	Mammalogy	
BIO 499	Independent Research (up to two credits may apply)	
MIC 230	Fundamentals of Microbiology	
MIC 350	Bacterial Diversity	
MIC 434	Aquatic Microbial Ecology	
Chemistry requirement		
Select three semesters of chemistry, including:		15-18
CHM 103	General Chemistry I	
CHM 104	General Chemistry II	
And one of the organic chemistry options:		
Option A (5 credits) [1]		
CHM 300 & CHM 302	Fundamental Organic Chemistry and Fundamental Organic Chemistry Laboratory	
Option B (7 credits)		
CHM 303 & CHM 304 & CHM 302	Organic Chemistry Theory I and Organic Chemistry Theory II and Fundamental Organic Chemistry Laboratory	
Option C (8 credits)		
CHM 303 & CHM 304 & CHM 305	Organic Chemistry Theory I and Organic Chemistry Theory II and Organic Chemistry Laboratory	
Math requirement		
Select eight credits of mathematics including the following:		8
STAT 145	Elementary Statistics	
or MTH 265	Mathematical Models in Biology	
MTH 175	Applied Calculus	
or MTH 207	Calculus I	
Conservation biology requirement		
Select a minimum of five credits of conservation biology support courses, including one of the following options:		5
Option A: Select two of the following:		
CHM 301	Analytical Chemistry	
CHM 312	Atmospheric Chemistry	
CHM 412	Aquatic and Soil Chemistry	
CHM 413	Environmental Chemistry Laboratory	
Option B: Select two of the following:		
GEO 305	Geographic Information Systems and Science I	
GEO 405	Geographic Information System and Science II	
GEO 415	Remote Sensing of the Environment I	
GEO 485	Geographic Information System and Science III	
Option C: Select two of the following:		
CS 120	Software Design I	
CS 220	Software Design II	
STAT 305	Statistical Methods	
STAT 445	Correlation and Regression Analysis	
STAT 446	Analysis of Variance and Design of Experiments	
STAT 447	Nonparametric Statistics	
STAT 448	Operations Research	
Total Credits		**67**

[1] This is the recommended option for most biology majors, but students should consult with their biology advisor before enrolling.

Degree requirements

All students must complete the general education, college core, major/minor, and university degree requirements in order to qualify for a degree. The easiest way to track all of these requirements is to refer to the Advisement Report (AR) found in the Student Information System (WINGS) Student Center. All enrolled students have access to the AR.

- General education (https://catalog.uwlax.edu/undergraduate/generaleducation/)
- College core (p. 2)
- Baccalaureate degree requirements (p. 2)

College of Science and Health (CSH) Bachelor of Science core requirements

B.S. and B.A. students graduating from the College of Science & Health are required to take:

- two MTH/STAT courses or one MTH/STAT course and one CS course from the General Education: Quantitative Reasoning Category (GEN ED 1004); and
- two courses selected from the General Education: Experiential Science Category (GEN ED 1008) and/or from BIO 203, BIO 304, BIO 210, CHM 104, GEO 221, GEO 222, PHY 104 or PHY 204. One of the two courses must be from a department outside of the student's major department.

Notes: Mathematics courses can be pairs, i.e. MTH 150 and MTH 151.

For the Bachelor of Science degree, in addition to all other College of Science and Health core requirements, students from non-exempted programs[1] must complete one of the following options. It is recommended that courses are selected in consultation with students' academic advisor.

1. Complete a second major; or
2. Complete a minor outside the major; or
3. Complete two certificates outside the major with at least 12 combined credits at the 300/400 level; or
4. Complete an individualized option, consisting of 18 credits
    a. At least 12 credits must be earned at the 300/400 level outside the major department.
    b. The remaining six credits should come from
        i. 100 level or higher courses outside the major (General education courses may apply provided they are not being used to fulfill minimum general education requirements.); or
        ii. 300/400 level courses inside major not being used to fulfill major requirements.
    c. Internship credits may not count toward the individualized option.

[1] The list of exempted CSH programs is below.

Baccalaureate degree requirements

Candidates for the Bachelor of Arts or the Bachelor of Science degrees must accomplish the following:

1. Fulfill the general education requirements.
2. Complete at least one ethnic studies (diversity) course.
3. Complete the courses prescribed by the Undergraduate Curriculum Committee for the degree desired in the respective school or college.
4. Earn a minimum of 120 semester credits with at least a 2.00 cumulative GPA.[1, 2]
5. At least 40 credits must be earned in 300/400 level courses. Transfer courses earned or transferred at the 300/400 level apply to this requirement.
6. Complete major and minor requirements with at least a 2.00 GPA[1, 2] in each major and minor (and concentration or emphasis, if selected).
7. A minimum of 30 semester credits in residence at UWL is required for graduation. (See undergraduate resident requirement (https://catalog.uwlax.edu/undergraduate/academicpolicies/graduation/#undergraduate-residence-requirement).)
8. Submit an application for graduation via the "Submit Intent to Graduate" link in the WINGS Student Center as soon as the student has registered for his or her final semester or summer term in residence. December and winter intersession graduates should apply by May 1. May and summer graduates should apply by December 1.

[1] Grade point average requirements for some programs will be considerably higher than 2.00. Re-entering students may be required to earn credits in excess of the 120 needed for graduation in any curriculum in order to replace credits earned in courses in which the content has changed substantially in recent years. Each case will be judged on its own merit.

[2] The grade point average recorded at the time the degree is awarded will not be affected by future enrollment.

No degree will be awarded unless all requirements are fulfilled and recorded within 30 days after the official ending date of each term.

Sample degree plan

Below is a sample degree plan that can be used as a guide to identify courses required to fulfill the major and other requirements needed for degree completion. A student's actual degree plan may differ depending on the course of study selected (second major, minor, etc.). Also, this sample plan assumes readiness for each course and/or major plan, and some courses may not be offered every term. Review the course descriptions or the class timetable (http://www.uwlax.edu/records/registration/) for course offering information.

The sample degree plans represented in this catalog are intended for first-year students entering UWL in the fall term. Students should use the Advisement Report (AR) in WINGS (https://wings.uwlax.edu) and work closely with their faculty advisor(s) and college dean's office to ensure declaration and completion of all requirements in a timely manner.

General Education Program

The general education curriculum (Gen Ed) is the common educational experience for all undergraduates at UWL. Sample degree plans include Gen Ed placeholders to ensure completion of the general education requirements. Courses may be rearranged to fit the needs or recommendations of the student's program of study. Gen Ed courses may be taken during winter term (January between the semesters) and summer to reduce the course load during regular terms (fall and spring). Students should consult with their advisor and/or the college academic services director in their college/school for assistance with course and schedule planning. Refer to the general education requirements (https://catalog.uwlax.edu/undergraduate/generaleducation/) for more specific details.

At least 40 credits of the 120 credits required must be earned at the 300/400-level.

Note: New students and transfer students with less than 12 credits earned are required to take FYS 100 First-Year Seminar (3 cr.) during one of their first two semesters at UWL.

This sample degree plan does not establish a contractual agreement. It identifies the minimum requirements a student must successfully complete, to qualify for a degree, in a format intended to assist the student in planning their academic career. Actual degree plans may differ.

Year 1

Fall	Credits	Spring	Credits
BIO 105 (Gen Ed 1008 Experiential Science)	4	BIO 203	4
CST 110 (Gen Ed 1003 Spoken Literacy)	3	ENG 110 (Gen Ed 1002 Written Literacy)	3
MTH 207 or 175 (Gen Ed 1004 Quantitative Reasoning)	4	CHM 103 (CSH Core - Gen Ed Experiential Science not BIO)	5
FYS 100 (Gen Ed 1001 First-Year Seminar)	3	Gen Ed 1009 Social and Behavioral Studies	3
	14		**15**

Year 2

Fall	Credits	Spring	Credits
BIO 291	2	CHM 300	4
BIO 307	3	CHM 302	1
CHM 104	5	BIO 306	4
STAT 145 or MTH 265 (CSH Core)	4	Gen Ed 1012 Planet That Sustains Us	3
Gen Ed 1007 Arts and Aesthetics	2	Gen Ed 1005 Ethnic Diversity	3
	16		**15**

Year 3

Fall	Credits	Spring	Credits
BIO Elective from list	3	BIO 315 or MIC 230	4
Environmental Support Course (see list)	3	BIO Elective from list	4
CSH Core (300/400 not BIO) or Minor	3	Environmental Support Course (see list)	3
Gen Ed 1010 Stories We Tell	3	Gen Ed 1006 Mind and Body	3
University Elective	2	Gen Ed 1007 Arts and Aesthetics	2
	14		**16**

Year 4

Fall	Credits	Spring	Credits
BIO 419	3	BIO Elective (400 level from list)	3
BIO Elective from list	3	BIO Elective from list	3
Gen Ed 1013 Cultures of Our World	3	Gen Ed 1011 Pasts That Define Us	3
CSH Core (300/400 not BIO) or Minor	3	CSH Core (300/400 not BIO) or Minor	3
CSH Core or Minor[1]	3	CSH Core or Minor[1]	3
	15		**15**

Total Credits: 120

[1] See CSH BS Core Requirements (https://catalog.uwlax.edu/undergraduate/scienceandhealth/#Core) for information on completing the individualized option. 300/400 requirements for graduation may be impacted.