Biology Major: Environmental Science Concentration - Bachelor of Arts (BA)

Major requirements

(All colleges, excluding teacher certification programs)

39 credits (67 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 491, BIO 495, and BIO 499) to fulfill requirements of the major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 105</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 203</td>
<td>Organismal Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 306</td>
<td>Genetics</td>
<td>4</td>
</tr>
<tr>
<td>BIO 307</td>
<td>Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 315</td>
<td>Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 419</td>
<td>Quantitative Methods in Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 491</td>
<td>Capstone Seminar in Biology</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 16 credits of elective from the following: 16

- BIO 302 Introductory Plant Identification
- BIO 304 Plant Biology
- BIO 321 Ornithology
- BIO 337 Plant Physiology
- BIO 341 Limnology
- BIO 401 Comparative Vertebrate Anatomy
- BIO 404 Plant Taxonomy
- BIO 405 Aquatic and Wetland Vascular Plants
- BIO 406 Parasitology
- BIO 412 Mycology
- BIO 414 Freshwater Invertebrate Zoology
- BIO 422 Ichthyology
- BIO 429 Evolution
- BIO 441 Environmental 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 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 350 Bacterial Diversity

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 1:
- CHM 300 Survey of Organic Chemistry

Option 2:
- CHM 303 Organic Chemistry Theory I
- CHM 304 Organic Chemistry Theory II
- CHM 305 Organic Chemistry Laboratory

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

Select a minimum of five credits of environmental science support courses, including one of the following options: 5

Option A:
- CHM 301 Analytical Chemistry

Option B: Select two of the following:
- GEO 250 Maps and GIS
- GEO/ESC 345 Remote Sensing
- GEO/ESC 385 Introduction to Geographic Information System and Science
- GEO 485 Advanced Geographic Information Science

Option C: Select two of the following:
- CS 120 Software Design I
- CS 220 Software Design II
- STAT 405 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 67-70

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 (http://catalog.uwlax.edu/undergraduate/generaleducation)
- College core (p. 1)
- Baccalaureate degree requirements (p. 2)

College of Science and Health (SAH)
Bachelor of Arts core requirements

B.S. and B.A. students graduating from the College of Science and Health are required to take two natural laboratory science courses selected from the general education laboratory science category (GE 05) and/or from BIO 203, BIO 210, BIO 304, CHM 104, ESC 221, ESC 222, PHY 104 or PHY 204, and they either must take two mathematics courses or one math course and one computer science course from the
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. (No substitutions for graduation may be made in course requirements for a major or minor after the fourth week of the last semester of the senior year.)
4. Earn a minimum of 120 cumulative GPA. At least 40 credits must be earned in 300/400 level courses at the University of Wisconsin-La Crosse. Courses earned at the 100/200 level that transferred to UWL as 300/400 level courses do not apply to this requirement nor do courses from two-year schools.
5. Complete major and minor requirements with at least a 2.00 GPA in each major and minor (and concentration or emphasis, if selected).
6. A minimum of 30 semester credits in residence at UWL is required for graduation. (See undergraduate resident requirement (http://catalog.uwlax.edu/undergraduate/academicpolicies/graduation/#undergraduate-residence-requirement).)
7. Submit an application for graduation via the "Apply for Graduation" link in the WINGS Student Center as soon as the student has recorded within 30 days after the official ending date of each term.

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 an individualized option, consisting of 15 credits.
   a. These courses must be from the College of Liberal Studies/School of Arts and Communication.
   b. At least 9 credits must be earned at the 300/400 level.
   c. General education courses may apply provided they are not being used to fulfill minimum general education requirements.
   d. Internship credits may not count toward the individualized option.

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/regitation) 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/psp/cprod/?cmd=login&amp;languageCd=ENG) 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 assistant to the dean of their college for assistance with course and schedule planning. Refer to the general education requirements (http://catalog.uwlax.edu/undergraduate/generaleducation) for more specific details.

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

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 plan their academic career. Actual degree plans may differ.

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BIO 105 (Gen Ed Natural Lab Science)</td>
<td>4 CHM 103 (Gen Ed Natural Lab Science)</td>
<td>5</td>
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<tr>
<td></td>
<td>CST 110 (Gen Ed Literacy-Oral)</td>
<td>3 Gen Ed Self &amp; Society</td>
<td>3</td>
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<td></td>
<td>HIS 101, 102, or ARC 200 (Gen Ed World Hist)</td>
<td>3 BIO 203</td>
<td>4</td>
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<tr>
<td></td>
<td>MTH 207 or 175 (Gen Ed Math)</td>
<td>5 ENG 110 or 112 (Gen Ed Literacy-Written)</td>
<td>3</td>
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<td>15</td>
<td>15</td>
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<tr>
<td>2</td>
<td>STAT 145 or MTH 265 (Gen Ed Lang/Logical Systems)</td>
<td>4 CHM 300</td>
<td>5</td>
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<td></td>
<td>BIO 307</td>
<td>3 BIO 306</td>
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### Biology Major: Environmental Science Concentration - Bachelor of Arts (BA)

<table>
<thead>
<tr>
<th>CHM 104</th>
<th>5 202-Level Language (SAH BA Core)</th>
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#### Year 3

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<td>Gen Ed Minority Cultures</td>
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<th>Fall</th>
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<th>Spring</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIO Elective from list</td>
<td>3</td>
<td>BIO 315</td>
<td>4</td>
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<tr>
<td>Environmental Support Course (see list)</td>
<td>3</td>
<td>BIO Elective from list</td>
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<tr>
<td>SAH Core (300/400 CLS elec) or CLS Minor</td>
<td>3</td>
<td>Gen Ed Health &amp; Well Being</td>
<td>3</td>
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<tr>
<td>Gen Ed Hum-Lit</td>
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<td>University Elective</td>
<td>2</td>
<td>Environmental Support Course (see list)</td>
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<tr>
<td></td>
<td>14</td>
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<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
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<tbody>
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<td>BIO 491</td>
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<td>BIO 419</td>
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</tr>
<tr>
<td>SAH Core (300/400 CLS elec) or CLS Minor</td>
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<td>BIO Elective from list</td>
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</tr>
<tr>
<td>SAH Core or CLS Minor¹</td>
<td>3</td>
<td>SAH Core (300/400 CLS elec) or CLS Minor</td>
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<tr>
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<td>SAH Core or CLS Minor¹</td>
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</table>

Total Credits: 120

¹ See SAH BA Core Requirements (http://catalog.uwlax.edu/undergraduate/scienceandhealth/#Core) for information on completing the individualized option. 300/400 requirements for graduation may be impacted.