

Biology Major: Science Education (Grades 4-12) Concentration - Bachelor of Science (BS)

Major requirements

Completion of the Biology: Science Education Concentration Program and associated benchmark assessments (<http://catalog.uwlax.edu/undergraduate/education/#SOE-program-requirements>) will lead to endorsement for the following Wisconsin teaching license:

- Middle and High School Science, grades 4-12 (2600).

Students in all teacher education programs must satisfy the School of Education (SOE) core requirements (<https://catalog.uwlax.edu/undergraduate/education/#SOE-core>).

Students in all teacher education programs must be admitted to the School of Education (<https://www.uwlax.edu/soe/undergrad/admission-to-soe/>) to complete their program requirements and be eligible for endorsement for the appropriate teaching license(s). Students majoring in biology: science education (grades 4-12) must meet specific program admission criteria (<https://catalog.uwlax.edu/undergraduate/education/#STEP>).

Retention and advancement

Teacher candidates may be retained in their teacher education program provided they fulfill the conditions described in the SOE Retention Policy (<http://catalog.uwlax.edu/undergraduate/education/#retention>). Students must complete all course requirements and other benchmarks prior to student teaching as described in the Student Teaching and Internship Policy (<http://catalog.uwlax.edu/undergraduate/education/#student-teaching>). Additional SOE program requirements, including the culminating assessment of pedagogical knowledge, are described on the SOE catalog page (<http://catalog.uwlax.edu/undergraduate/education/>).

Curriculum

The Biology: Science Education Concentration Program is aligned with Wisconsin Teacher Standards and the National Science Teaching Association (NSTA) Standards.

Required general education courses (17 credits)

Besides the courses specified below, biology: science education concentration majors must satisfy additional general education requirements (<http://catalog.uwlax.edu/undergraduate/generaleducation/#generaleducationrequirements>). The General Education Program requires a minimum of 41 credits.

Code	Title	Credits
EDS 203	Foundations of Education ^{1,2}	3
EDS 206	Society and Schools ^{1,3}	3
Select one of the following: ⁴		4
MTH 150	College Algebra	

MTH 151	Precalculus	
MTH 175	Applied Calculus	
MTH 207	Calculus I	
GEO 200	Conservation of Global Environments ⁵	3
BIO 105	General Biology ^{6,7}	4
Total Credits		17

¹ Satisfies an SOE core requirement.

² Counts toward General Education Program requirement: Social and Behavioral Studies (GEN ED 1009).

³ Counts toward General Education Program requirement: Ethnic Diversity (GED ED 1005).

⁴ Counts toward General Education Program requirement: Quantitative Reasoning (GEN ED 1004).

⁵ Counts toward General Education Program requirement: The Planet That Sustains Us (GEN ED 1012). Also satisfies both a science education core requirement and a WI statutory requirement for a teaching license in Science (2600).

⁶ Counts toward General Education Program requirement: Experiential Science (GEN ED 1008). Also satisfies a science education core requirement.

⁷ Satisfies a biology major content requirement.

Science education core requirements (55 credits)

Code	Title	Credits
Allied courses not requiring admission to the School of Education		
EDS 309	Global Perspectives in Education ⁸	3
PSY 212	Lifespan Development ¹	3
SPE 200	Foundations of Special Education ¹	3
Content courses not requiring admission to the School of Education		
BIO 203	Organismal Biology ⁷	4
CHM 103	General Chemistry I ⁷	5
CHM 104	General Chemistry II ⁷	5
GEO 101	Earth Environments	4
Select one of the following:		4
PHY 103	Fundamental Physics I	
PHY 203	General Physics I	
Select one of the following:		4
PHY 104	Fundamental Physics II	
PHY 204	General Physics II	
Courses requiring admission to the School of Education ¹		
BIO 451	Curriculum and Content in Science and Mathematics	2
BIO 452	The Learner and Learning in Science	2
BIO 454	Field Experience I in Science Education	2
BIO 455	Field Experience II in Science Education	2
Student teaching semester		
Demonstrate content knowledge through benchmark assessment prior to student teaching ⁹		
EDS 492	Student Teaching Seminar ¹	1
Select one of the following: ¹		11
EDS 496	Student Teaching: Middle/High School Education (4-12)	
EDS 495	Teaching Internship	
Total Credits		55

Biology major content requirements (23-26 credits)

Besides the below, additional courses count toward this requirement. However, they also satisfy other requirements in the program. The relevant courses are marked in those sections.

Code	Title	Credits
BIO 306	Genetics	4
BIO 307	Ecology	3
BIO 315	Cell Biology	4
BIO 429	Evolution	3
Additional math requirement		
STAT 145	Elementary Statistics	4
Select one of the following organic chemistry options:		5-8
Option A (5 credits) ¹⁰		
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	
Total Credits		23-26

⁸ Counts toward General Education Program requirement: The Cultures of Our World (GEN ED 1013).

⁹ Must complete all course requirements and other benchmarks prior to student teaching. See SOE's benchmark assessments (<https://www.uwlax.edu/soe/undergrad/benchmark-assessments/>) website for information about these assessments. For more information on student teaching, please see the Student Teaching and Internship Policy (<http://catalog.uwlax.edu/undergraduate/education/#student-teaching>).

¹⁰ This is the recommended option for most biology majors, but students should consult with their biology advisor before enrolling.

Additional teacher education requirements are listed on the School of Education (<https://catalog.uwlax.edu/undergraduate/education/>) catalog page.

Degree requirements

All teacher education students must complete the general education, School of Education, 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/>)
- School of Education requirements (<https://catalog.uwlax.edu/undergraduate/education/>)
- Baccalaureate degree requirements (p. 2)

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 intercession 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.

Two samples plans are provided. These are merely samples and should be discussed with your adviser to determine the best route for you.

Sample Plan 1

Year 1		
Fall	Credits Spring	Credits
EDS 203 (Gen Ed 1009 Social and Behavioral Studies)	3 BIO 203	4
FYS 100 (Gen Ed 1001 First-Year Seminar)	3 CHM 103	5
MTH 150 (Gen Ed 1004 Quantitative Reasoning)	4 EDS 206 (Gen Ed 1005 Ethnic Diversity)	3
BIO 105 (Gen Ed 1008 Experiential Science)	4 CST 110 (Gen Ed 1003 Spoken Literacy)	3
ENG 110 (Gen Ed 1002 Written Literacy)	3	
	17	15
Year 2		
Fall	Credits Spring	Credits
CHM 104	5 GEO 200 (Gen Ed 1012 Planet That Sustains Us)	3
BIO 306	4 PHY 103 or 203	4
GEO 101	4 BIO 307	3
EDS 309 (Gen Ed 1013 Cultures of Our World)	3 STAT 145	4
	Gen Ed 1007 Arts and Aesthetics	2
	16	16
Year 3		
Fall	Credits Spring	Credits
SPE 200	3 BIO 454	2
PSY 212	3 BIO 451	2
PHY 104 or 204	4 BIO 315	4
CHM 300	4 BIO 429	3
CHM 302	1 Gen Ed 1011 Past That Define Us	3
Apply for admission to SOE ¹	University Elective	3
Apply for Field Experience I ²	Apply for Field Experience II ²	
	Apply for Student Teaching ³	
	15	17

Year 4		
Fall	Credits Spring	Credits
BIO 455	2 All course requirements and other benchmarks must be completed prior to student teaching. ⁴	
BIO 452	2 EDS 492	1
Gen Ed 1006 Mind and Body	3 EDS 496	11
Gen Ed 1007 Arts and Aesthetics	2	
Gen Ed 1010 Stories We Tell	3	
	12	12

Total Credits: 120

Sample Plan 2

Year 1		
Fall	Credits Spring	Credits
EDS 203 (Gen Ed 1009 Social and Behavioral Studies)	3 EDS 206 (Gen Ed 1005 Ethnic Diversity)	3
FYS 100 (Gen Ed 1001 First-Year Seminar)	3 BIO 203	4
ENG 110 (Gen Ed 1002 Written Literacy)	3 CHM 104	5
CHM 103	5 MTH 151 (Gen Ed 1004 Quantitative Reasoning)	4
BIO 105 (Gen Ed 1008 Experiential Science)	4	
	18	16
Year 2		
Fall	Credits Spring	Credits
CST 110 (Gen Ed 1003 Spoken Literacy)	3 GEO 200 (Gen Ed 1012 Planet That Sustains Us)	3
EDS 309 (Gen Ed 1013 Cultures of Our World)	3 PHY 103 or 203	4
GEO 101	4 BIO 307	3
BIO 306	4 STAT 145	4
University Elective	3 Gen Ed 1007 Arts and Aesthetics	2
	17	16
Year 3		
Fall	Credits Spring	Credits
SPE 200	3 BIO 451	2
PSY 212	3 BIO 454	2
PHY 104 or 204	4 BIO 315	4
CHM 300	4 BIO 429	3
CHM 302	1 Gen Ed 1011 Past That Define Us	3
Apply for admission to SOE ¹	Apply for Field Experience II ²	
Apply for Field Experience I ²	Apply for Student Teaching ³	
	15	14
Year 4		
Fall	Credits Spring	Credits
BIO 455	2 All course requirements and other benchmarks must be completed prior to student teaching. ⁴	
BIO 452	2 EDS 492	1
Gen Ed 1006 Mind and Body	3 EDS 496	11
Gen Ed 1007 Arts and Aesthetics	2	

Gen Ed 1010 Stories We Tell	3	
	12	12

Total Credits: 120

- ¹ See the SOE admissions website (<https://www.uwlax.edu/soe/undergrad/admission-to-soe/>) for complete admission and application details. Students will be required to complete a criminal background check (<https://catalog.uwlax.edu/undergraduate/education/#criminal-background-check>) at the time of application for admission.
- ² Students applying for field and student teaching placements will be asked to disclose any criminal charges (<https://catalog.uwlax.edu/undergraduate/education/#disclosure-past-offenses>).
- ³ Students must apply for student teaching (<https://www.uwlax.edu/soe/field-and-student-teaching-experience/for-teacher-candidates/>) through the Office of Field Experience one year prior to the student teaching semester.
- ⁴ For more information, please see the Student Teaching and Internship Policy (<https://catalog.uwlax.edu/undergraduate/education/#student-teaching>).