

Biology and Science Education Grades 4-12, Major

Students in the College of Education with a desire to teach biology can earn a B.S. degree with a second major in Biology and Science Education Grades 4-12.

Major in Biology and Science Education Grades 4–12

Students in the College of Education majoring in Middle/Secondary Education must complete the following courses for licensure by the Wisconsin Department of Public Instruction to teach middle school and high school science.

Code	Title	Hours
Required Biology Courses:		
BIOL 1001	General Biology 1	3
BIOL 1002	General Biology 2	3
BIOL 2001 or BIOL 1101	Principles of Biological Investigation Foundations in Biological Inquiry	3
BIOL 3201	Genetics	3
BIOL 3301	Cell Biology	3
Choose one additional course from the following:		3-4
BIOL 4406	Plant Biology	
BIOL 4701	Human Physiology	
BIOL 4801	Microbiology	
Lab Course - Choose one of the following:		3
BIOL 4102	Experimental Molecular Biology	
BIOL 4202	Experimental Genetics	
BIOL 4302	Experimental Cell Biology	
BIOL 4402	Experimental Ecology and Field Biology	
BIOL 4403	Tropical Ecology in Panama	
BIOL 4502	Experimental Neurobiology	
BIOL 4602	Experimental Vertebrate Anatomy and Development	
BIOL 4702	Experimental Physiology	
BIOL 4802	Experimental Microbiology	
Elective Courses - Choose three of the following: ¹		9
BIOL 1406	Plants, Pathogens and People	
BIOL 1410	Biology of Human Disease	
BIOL 3101	Biochemistry and the Molecular Basis of Biology	
BIOL 3400	Ecology	
BIOL 3404	Evolutionary Biology	
BIOL 4201	Genomics and Bioinformatics	
BIOL 4401	Advanced Ecology	
BIOL 4406	Plant Biology	
BIOL 4410	Conservation Biology	
BIOL 4501	Cellular Neurobiology	
BIOL 4601	Animal Development	
BIOL 4701	Human Physiology	
BIOL 4703	Exercise Physiology	
BIOL 4801	Microbiology	
BIOL 4806	Immunobiology	
Cognate Courses:		
CHEM 1001 or CHEM 1013	General Chemistry 1 General Chemistry 1 for Majors	4
CHEM 1002 or CHEM 1014	General Chemistry 2 General Chemistry 2 for Majors	4

CHEM 2111 or CHEM 2113	Organic Chemistry 1 Organic Chemistry for Majors 1	4
MATH 1410 or MATH 1450	Calculus for the Biological Sciences Calculus 1	3
PHYS 1001 or PHYS 1003 or PHYS 1013	General Physics 1 General Physics with Introductory Calculus 1 Classical and Modern Physics with Calculus 1	4
PHYS 1002 or PHYS 1004 or PHYS 1014	General Physics 2 General Physics with Introductory Calculus 2 Classical and Modern Physics with Calculus 2	4
PHYS 1009	Earth and Environmental Physics	3

Total Credit Hours:**56-57**

- ¹ Additional Elective Options:
- Lab courses not completed in fulfillment of the Lab Course requirement.
 - Biological Sciences graduate courses with consent of the instructor and department chairperson.
 - No more than one Biomedical Sciences (BISC) course in a subject not offered by Biological Sciences.
 - Courses offered by other departments with the consent of the department chairperson.

Typical Program for Biological sciences for Education Majors**Freshman**

First Term	Hours	Second Term	Hours
BIOL 1001		3 BIOL 1002	3
CHEM 1001 or 1013		4 CHEM 1002 or 1014	4
EDUC 1000		3 EDUC 1001	3
EDUC 1001 (MCC/ESSV1)		3 PHIL 1001 or ENGL 1001 (MCC)	3
ENGL 1001 or PHIL 1001 (MCC)		3 THEO 1001 (MCC)	3
	16		16

Sophomore

First Term	Hours	Second Term	Hours
BIOL 3301		3 BIOL 3201	3
CHEM 2111		4 Biology elective	3
CORE 1929		3 EDUC 2002	3
EDUC 2001		3 DSCV (MCC) ^{1,2}	3
MATH 1410		3 DSCV (MCC) ^{1,2}	3
	16		15

Junior

First Term	Hours	Second Term	Hours
BIOL 2001		3 Biology elective	3
Biology elective		3 Biology lab	3
EDUC 4003		3 EDUC 4000	3
EDUC 4037		3 EDUC 4047	3
PHYS 1001		4 DSCV (MCC) ^{1,2}	3
	16		15

Senior

First Term	Hours	Second Term	Hours
BIOL 4406, 4701, or 4801		3 EDUC 4965	15
CORE 4929 (MCC)		3	
EDUC 4017		3	
DSCV (MCC) ^{1,2}		3	
PHYS 1009		3	
	15		15

Total Credit Hours: 124

¹ The four courses in the Discovery Tier (DSCV) of the MCC must be completed in the same theme and include the following content areas: Humanities, Social Science, Natural Science and Mathematics, and one elective, which is an additional course from any of the three content areas. A maximum of two courses in the Discovery Tier can apply towards a primary major.

² Students must also complete the Writing Intensive (WRIT) and Engaging Social System and Values 2 (ESSV2) requirements of the MCC. These requirements can be fulfilled through designated courses in the Discovery Tier or other degree requirements.

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