

# Biological Sciences Education

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## Department Information

- **Department Location:**  
Katherine Kilbourne Burgum Family Life, 4-H Center
- **Department Phone:**  
701-231-7921
- **Department Web Site:**  
[www.ndsu.edu/education/](http://www.ndsu.edu/education/) (<http://www.ndsu.edu/education/>)
- **Credential Offered:**  
B.S.; B.A.
- **Official Program Curriculum:**  
[bulletin.ndsu.edu/undergraduate/program-curriculum/biological-sciences-education/](http://bulletin.ndsu.edu/undergraduate/program-curriculum/biological-sciences-education/) (<http://bulletin.ndsu.edu/undergraduate/program-curriculum/biological-sciences-education/>)

Biological sciences, in the broadest sense, is the study of life in the natural world. As such, it is a subject of great diversity and requires a background in many academic disciplines. Teaching biological sciences in middle or secondary schools requires deep knowledge of (a) science content, (b) current theories of adolescent development, and (c) current best practices in middle and secondary instruction. Accordingly, the biological sciences education major combines coursework in biology and related sciences with professional education courses on teaching and learning.

## The Program

Candidates in biological sciences education are prepared to teach students in grades 5-12 with skill and confidence. The program is designed to develop science content knowledge as well as proficiency in a range of science-related skills and laboratory practices. Our professional education courses prepare teacher candidates to incorporate active learning strategies, create effective methods for assessment, and adjust instruction to accommodate diverse learners. Teacher candidates also apply their knowledge and build their teaching skills during multiple clinical experiences in local schools.

## Professional Education Courses

Teacher candidates may enroll in the 300-level professional education courses before applying to be formally admitted to the School of Education (SOE). Prior to enrolling in the 400-level courses, teacher candidates must complete the application for admission to the SOE; attain a minimum of a 2.75 grade point average overall in their course work and education courses; and pass the Praxis Core Academic Skills for Educators test or meet minimum scores on the ACT+. Requirements for admission can be found on the School of Education website (<https://www.ndsu.edu/education/>).

## STUDENT TEACHING

Student teaching (clinical practice) is the culmination of the teacher preparation program. During the clinical practice, teacher candidates apply the knowledge and skills acquired in their college courses to real-world classrooms under the supervision of experienced classroom teachers in middle or secondary schools. Faculty members from NDSU conduct regular on-site visits to support, encourage, and evaluate teacher candidates so that they gain the confidence and ability to join the teaching profession after graduation.

## STUDENT ADVISEMENT

Biological sciences teacher candidates are assigned to academic advisors who work closely with them to plan their programs of study and to advise and assist them as they progress to degree completion. Students are encouraged to meet with their advisor at least once every semester, as well as whenever needed. Appointments with advisors can be scheduled through the Navigate online system found on the Student Affairs web page, <https://www.ndsu.edu/enrollmentmanagement/studentsuccess/>

## Licensure

Upon completing this program, teacher candidates are eligible for teacher licensure in biological sciences in most states. Students who take the Praxis Subject Assessment exam for Biology will be licensed to teach biology and related secondary courses, as well as middle school sciences. Teacher candidates who choose to take the Praxis Subject Assessment exam for General Science will be licensed to teach all areas of middle school and high school science. Our program is accredited by the Council for the Accreditation of Educator Preparation (CAEP) and approved by the North Dakota Education Standards and Practices Board (ESPB).

## Career Opportunities

Science teachers are in high demand across the country, so our graduates usually obtain full-time employment in school districts shortly after graduation.

## Sample Program Guide

Please note this is a sample program guide and not an official curriculum. Actual student schedules for each semester will vary depending on start year, education goals, applicable transfer credit, and course availability. Once admitted, students are encouraged to work with their assigned academic advisor on a regular basis to review degree progress.

<b>First Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
BIOL 150 & 150L		4 BIOL 151 & 151L	4
ENGL 110 (or 120 College Composition II based on placement)		3 COMM 110	3
GEOL 105 & 105L (Global Perspectives Gen Ed requirement)		4 ENGL 120	3
MATH 105 or 146		3-4 GEOL 106 & 106L	4
		Social & Behavioral Science Gen Ed*	3
		<b>14-15</b>	<b>17</b>
<b>Second Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
BIOL 220 & 220L		4 BIOL 221 & 221L	4
CHEM 121 & 121L		4 BIOL 252	3
EDUC 321		3 CHEM 122 & 122L	4
MICR 202 & 202L		3 EDUC 322	3
Humanities & Fine Arts Gen Ed*		3 Social & Behavioral Sciences Gen Ed*	3
Complete Core Academic Skills Exam or access your ACT+ scores		Apply to the School of Education	
		<b>17</b>	<b>17</b>
<b>Third Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
BIOL 315 & 315L		4 BIOL 359	3
BIOL 364		3 EDUC 481	3
EDUC 451		3 EDUC 486	3
PHYS 120 & 120L		4 SOIL 217	3
Wellness Gen Ed		2 STAT 330	3
		<b>16</b>	<b>15</b>
<b>Fourth Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
BIOL 370		3 EDUC 485	1
Apply for Student Teaching		EDUC 487	9
EDUC 482		3 EDUC 488	3
EDUC 489		3	
ENGL 324		3	

Humanities & Fine Arts Gen Ed*	3	
Complete PLT (grades 7-12) Exam		
Complete Subject Area Assessment Exam		
	<b>15</b>	<b>13</b>

**Total Credits: 124-125**

\* One of these General Education courses needs to be selected from Category D - Cultural Diversity.