Earth Science Education

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/)
- **Credential Offered:**
  B.S.; B.A.
- **Official Program Curriculum:**
  catalog.ndsu.edu/undergraduate/program-curriculum/earth-science-education/ (http://catalog.ndsu.edu/undergraduate/program-curriculum/earth-science-education/)

Earth science involves the study of earth and space systems, including areas such as astronomy, geology, meteorology and oceanography. Teaching earth science requires deep knowledge of (a) science content, (b) current theories of adolescent development, and (c) current best practices in secondary instruction. Accordingly, the earth science education major combines coursework across an interdisciplinary range of scientific fields with professional education courses on teaching and learning.

The Program

Candidates in earth science 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 majors to incorporate active learning strategies, to create effective methods for assessment, and to 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 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 high schools. Faculty members from NDSU conduct regular on-site visits to support, encourage, and evaluate student teachers so that they gain the confidence and ability to join the teaching profession after graduation.

Student Advisement

Earth science education 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.

Licensure

Upon completing this program, candidates are eligible for certification to teach in most states. Candidates who take the Praxis Subject Assessment exam for Earth and Space Science will be licensed to teach earth science and related high school courses, as well as all middle school sciences. 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.

First Year				
Fall	**Credits**		**Spring**	**Credits**
CHEM 121 or 150 (Must be matching lecture and lab)		3	CHEM 122 or 151 (Must be matching lecture and lab)	3
CHEM 121L or 160 (Must be matching lecture and lab)		1	CHEM 122L or 161 (Must be matching lecture and lab)	1
GEOL 105 & 105L		4	COMM 110	3
ENGL 110 (or 120 College Composition II based on placement)		3	ENGL 120	3
MATH 105 or 165		3-4	GEOL 106	3
			GEOL 106L	1
		14-15		**14**
Second Year				
Fall	**Credits**		**Spring**	**Credits**
BIOL 124 & BIOL 100L		4	BIOL 151 & 151L	4
BIOL 150 & 150L		4	EDUC 322	3
EDUC 321		3	GEOL 412	3
PHYS 110		3	PHYS 120 & 120L	4
Wellness Gen Ed		2	SOIL 217	3
Complete Core Academic Skills Exam or access your ACT+ scores			Apply to the School of Education	
		16		**17**
Third Year				
Fall	**Credits**		**Spring**	**Credits**
EDUC 451		3	EDUC 481	3
EDUC 489		3	GEOL 350 & GEOL 303 (Co-Requisites)	4
GEOL 420 & GEOL 421 (co-requisites; prereq: CHEM 121 or 150)		4	GEOL 422 & GEOL 423 (Co-Requisites; Prereq: GEOL 420)	4
STAT 330		3	Humanities & Fine Arts Gen Ed*	3
Social & Behavioral Science Gen Ed*		3		
		16		**14**
Fourth Year				
Fall	**Credits**		**Spring**	**Credits**
EDUC 482		3	EDUC 485	1
EDUC 486		3	EDUC 487	9
ENGL 324		3	EDUC 488	3
Humanities & Fine Arts Gen Ed*		3		
Social & Behavioral Science Gen Ed*		3		

Apply for Student Teaching		
Complete PLT (grades 7-12) Exam		
Complete Subject Area Assessment Exam		
	15	**13**

Total Credits: 119-120

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