



**Bachelor of Science, Science Education,
with Emphasis in Biology**

Student Name:

UID:

The Bachelor of Science with major in Science Education is a degree awarded by the College of Liberal Arts and Sciences (CLAS). This major, with emphasis in Biology, Chemistry, Earth Science, or Physics, is available to all students enrolled in CLAS, but is designed -- when completed in conjunction with a Science Education Teacher Education Program -- to satisfy content course requirements for teaching two or more science subjects in grades 5-12.

A fifth emphasis, Bachelor of Science in Science Education (All Science) is available only to students who have been [admitted to the Teacher Education Program](#).

Requirements

- Completion of 7-8 semester hours in Science Education; and
- Completion of a minimum 24-27 semester hours in Biology, as listed below, and
- Completion of a minimum 15 semester hours in Chemistry, Earth Science, or Physics; and
- Completion of College of Liberal Arts and Sciences [requirements for a bachelor's degree](#).

Science Education Course Requirements

Complete the following

Course	Former	Course Title	Credit	Session/Substitute
SIED:4135	097:135	The Nature of Science	3-4 s.h.	

Society and Educational Applications (Complete one of the following three)

Course	Former	Course Title	Credit	Session/Substitute
SIED:4102	097:102	Soc Ed App of Earth Sci & Envir Sci (Fall only)	3-4 s.h.	
SIED:4105	097:105	Soc Ed App of Physical Sciences (Spring only)	3-4 s.h.	
SIED:4106	097:106	Soc Ed App of Chemical Concepts (Spring only)	3-4 s.h.	

Biology Emphasis Course Requirements (Minimum 24-27 s.h.)

Foundations (Complete both of the following)

Course	Former	Course Title	Credit	Session/Substitute
BIOL:1411	002:031	Foundations of Biology	4 s.h.	
BIOL:1412	002:032	Diversity of Form and Function	4 s.h.	

Genetics (Complete one of the following)

Course	Former	Course Title	Credit	Session/Substitute
BIOL:2512	002:128	Fundamental Genetics	4 s.h.	
BIOL:2211	002:099	Genes, Genomes & the Human Cond	3 s.h.	
BIOL:1311	002:081	Human Genetics in the 21st Century (Fall)	3 s.h.	

Evolution (Complete one of the following)

Course	Former	Course Title	Credit	Session/Substitute
BIOL:1370	002:022	Understanding Evolution (Spring)	3 s.h.	
BIOL:3172	002:131	Evolution	4 s.h.	

Physiology (Complete one of the following)

Course	Former	Course Title	Credit	Session/Substitute
HHP:3500	027:130	Human Physiology	3 s.h.	
BIOL:3343	002:124	Animal Physiology (Spring)	3 s.h.	

Complete one of the following

Course	Former	Course Title	Credit	Session/Substitute
BIOL:2673	002:134	Ecology (Fall)	3 s.h.	
BIOL:2374	002:103	Biogeography (Spring)	3 s.h.	

Complete one of the following

Course	Former	Course Title	Credit	Session/Substitute
BIOL:3233	002:104	Introduction to Develop. Bio (Fall)	3 s.h.	
BIOL:2723	002:114	Cell Biology (Spring)	3 s.h.	
BIOL:3363	002:117	Plant Developmental Bio (Spring)	3 s.h.	
BIOC:3110	099:110	Biochemistry	3 s.h.	

Society and Educational Applications (Complete the following)

Course	Former	Course Title	Credit	Session/Substitute
SIED:4103	097:103	Soc Ed App of Biological Sciences (Fall only)	3-4 s.h.	

Additional courses and approved substitutions

Course	Former	Course Title	Credit	Session/Substitute
		Biology total s.h. (=24)		

Additional Emphasis Course Requirements (Complete 15 s.h. minimum in at least one of the following three areas)

Chemistry (Choose minimum 15 s.h. from the following or approved substitutes)

Course	Former	Course Title	Credit	Session/Substitute
CHEM:1110	004:011	Principles of Chemistry I	4 s.h.	
CHEM:1120	004:012	Principles of Chemistry II	4 s.h.	
CHEM:2210	004:121	Organic Chemistry I	3 s.h.	
CHEM:2220	004:122	Organic Chemistry II	3 s.h.	
CHEM:2021	004:021	Basic Measurements	3 s.h.	
SIED:4106	097:106	Soc Ed App of Chemical Concepts (Spring only)	3-4 s.h.	

Earth Science (Choose minimum 15 s.h. from the following or approved substitutes)

Course	Former	Course Title	Credit	Session/Substitute
EES:1040	012:004	Evolution and History of Life	4 s.h.	
EES:1030	012:003	Introduction to Earth Science	4 s.h.	
EES:1050	012:005	Introduction to Geology	4 s.h.	
EES:1080	012:008	Introduction to Environmental Science	4 s.h.	
EES:3000	012:100	Geologic Training Assignment (Summer only)	3 s.h.	
EES:3070	012:107	Marine Ecosystems (Fall only)	3 s.h.	
SIED:4102	097:102	Soc Ed App of Earth Sci & Envir Sci (Fall only)	3-4 s.h.	

Physics (Choose minimum 15 s.h. from the following or approved substitutes)

Course	Former	Course Title	Credit	Session/Substitute
PHYS:1511	029:011	College Physics I (Algebra-based)*	4 s.h.	
PHYS:1512	029:012	College Physics II (Algebra-based)*	4 s.h.	
PHYS:1200	029:006	Physics of Everyday Experience	3 s.h.	
ASTR:1070	029:050	Stars, Galaxies, & the Universe	3-4 s.h.	
SIED:4105	097:105	Soc Ed App of Physical Sciences (Spring only)	3-4 s.h.	

*Physics (PHYS:1701 and PHYS:1702) or Introductory Physics (PHYS:1611 and PHYS 1612) may be substituted for College Physics (PHYS:1511 and PHYS 1512).

This Program Guide is for planning and documentation of program completion. State requirements for licensure and endorsements are subject to change without notice; check with your adviser or the Office of Education Services for updated requirements. Course transfer and substitution may require syllabi or other documentation in addition to transcript. 12/13/2016 TN/DLT.

For additional information, admissions procedures, or advising referral, please contact Office of Education Services, College of Education, N310 Lindquist Center, Iowa City, IA 52242, 319-335-5359, FAX: 319-335-5364, edu-educationservices@uiowa.edu, <http://www.education.uiowa.edu>