

# Bachelor of Science in Biology with Integrated Science - Biology Education Emphasis

The Bachelor of Science in Biology with Integrated Science - Biology Education Emphasis degree has seven basic curricular components:

1. General Education and Institutional Requirements (some may also be included in program requirements)
2. Integrated Science requirements
3. Biology major core courses
4. Additional Integrated Science requirements
5. Upper-division Biology elective requirements
6. Lab safety certification course
7. Secondary Education Program admission and professional requirements

Graduation Requirements (p. 3)

## DSU General Education & Institutional Requirements

All DSU General Education and Institutional requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to DSU's minimum General Education standards in American Institutions, English, and Mathematics.

Code	Title	Hours
<b>Institutional Requirement in Computer Literacy</b> (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		
	Computer Literacy	0-6
<b>General Education Core Requirements</b> (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		
	English	3-7
	Information Literacy	0-1
	Mathematics	3-5
	American Institutions	3-6
	Life Sciences	3-10
	Physical Sciences	3-5
	Laboratory Science	0-1
	Fine Arts	3
	Literature/Humanities	3
	Social & Behavioral Sciences	3
	Exploration	3-5
	Two (2) Global & Cultural Perspectives Courses	0-6

Complete one of the following American Institutions GE course (Secondary Education requirement):

HIST 1700	American Civilization	3
or POLS 1100	American Government	

Complete one of the following Social & Behavioral Sciences GE courses (Secondary Education requirement):

FSHD 1500	Human Development Lifespan	3
or PSY 1010	General Psychology	
or PSY 1100	Human Development Through Lifespan	

### Biology Program Requirements

CHEM 1210 & CHEM 1215	Principles of Chemistry I and Principles of Chemistry I Lab	5
CHEM 1220 & CHEM 1225	Principles of Chemistry II and Principles of Chemistry II Lab	5
PHYS 2010 & PHYS 2015	College Physics I and College Physics I Lab	5
MATH 1050 & MATH 1060 or MATH 1080	College Algebra / Pre-Calculus and Trigonometry Pre-Calculus with Trigonometry	5-7

<b>Discipline Core Requirements</b>		
BIOL 1610 & BIOL 1615	Principles of Biology I and Principles of Biology I Lab	5
BIOL 1620 & BIOL 1625	Principles of Biology II and Principles of Biology II Lab	5
BIOL 2320 & BIOL 2325 or BIOL 3140 & BIOL 3145	Human Anatomy and Human Anatomy Lab Comparative Vertebrate Anatomy and Comparative Vertebrate Anatomy Lab	4-5
BIOL 2420 & BIOL 2425 or BIOL 4500 & BIOL 4505	Human Physiology and Human Physiology Lab Comparative Vertebrate Physiology and Comparative Vertebrate Physiology Lab	4
BIOL 3010	Evolution	3
BIOL 3030	Principles of Genetics	4
BIOL 3040	General Ecology	3
BIOL 3045	General Ecology Lab	1
Complete one of the following sets of courses:		
BIOL 2060 & BIOL 2065	Principles of Microbiology and Principles of Microbiology Lab	4
BIOL 3450 & BIOL 3455	General Microbiology and General Microbiology Lab	4
BIOL 3550 & BIOL 3555	Eukaryotic Cell Biology and Eukaryotic Cell Biology Lab	4
<b>Required Biology Elective</b>		
BIOL 2400 & BIOL 2405	Plant Kingdom and Plant Kingdom Lab	4
Complete one of the following sets of Zoology courses:		
BIOL 3200 & BIOL 3205	Invertebrate Zoology and Invertebrate Zoology Lab	4
BIOL 4260 & BIOL 4265	Herpetology and Herpetology Lab	3
BIOL 4270 & BIOL 4275	Ichthyology and Ichthyology Lab	3
BIOL 4350 & BIOL 4355	Animal Behavior and Animal Behavior Lab	4
BIOL 4380 & BIOL 4385	Ornithology and Ornithology Lab	3
BIOL 4411 & BIOL 4415	Mammalogy and Mammalogy Lab	4
BIOL 4440 & BIOL 4445	General Entomology and General Entomology Lab	4
<b>Integrated Science Requirements</b>		
GEO 1110 & GEO 1115	Physical Geology and Physical Geology Lab	4
GEOG 1020 & GEO 1025	Introduction to Weather and Life of the Past Laboratory	4
PHYS 1040 & PHYS 1045	Elementary Astronomy and Elementary Astronomy Lab	4
<b>Lab Safety Requirement</b>		
SCI 2600	Lab Safety for Teachers	1
<b>Secondary Education Program Prerequisite Courses</b>		
EDUC 1010	Foundations/Intro to Education	3
EDUC 2010	Intro to Exceptional Learners	3
EDUC 2400	Foundations Multicultural/ESL	3

EDUC 2500	Instructional Technology in K-12 Classrooms	3
EDUC 3110	Educational Psychology	3

## Secondary Education Program Admission

To be admitted to the Secondary Education Program and enroll in professional courses:

- USOE R277-504-3 A(3) "requires candidates to maintain a cumulative university GPA of 3.0, and receive a C or better in all education related courses and major required content courses"

and students must pass the appropriate PRAXIS II content area subject test(s). In addition, one of the following must be completed:

- Students with BA/BS degrees in progress must have completed at least 95% of major coursework and have approval of major academic content area department advisor
- Students with completed BA/BS or higher degrees must have their transcripts reviewed by content area department advisor

## Secondary Education Program Professional Requirements

### Semester I

SCI 4700	Secondary Science Teaching Methods (or BIOL 4130)	3
SCED 3720	Reading Writing Content Areas	3
SCED 4100	Curriculum, Instruction, and Assessment	3
SCED 4600	Classroom Management	3

### Semester II

SCED 4900	Secondary Student Teaching	10
SCED 4989	Student Teaching Seminar	2

## Graduation Requirements

1. Complete a minimum of 129 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSU for institutional residency.
4. Cumulative university GPA 3.0 or higher.
5. Grade C or higher (not C-) in each Biology Program Requirement, Core Discipline Requirement, and Biology Elective course.
6. USOE R277-504-3 A(3) "requires candidates to maintain a cumulative university GPA of 3.0, and receive a C or better in all education related courses and major required content courses"
7. 3.0 GPA in program prerequisite and professional courses.

## Graduation Plan

Course	Title	Hours
<b>1st Year</b>		
<b>Fall Semester</b>		
BIOL 1610	Principles of Biology I meets General Education (Life Sciences) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)	4
BIOL 1615	Principles of Biology I Lab meets General Education (Lab Science) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)	1
CHEM 1210	Principles of Chemistry I meets General Education (Physical Sciences) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)	4
CHEM 1215	Principles of Chemistry I Lab	1
CIS 1200	Computer Literacy	3
EDUC 1010	Foundations/Intro to Education	3
General Education (Fine Arts) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
Hours		19
<b>Spring Semester</b>		
BIOL 1620	Principles of Biology II	4
BIOL 1625	Principles of Biology II Lab	1
CHEM 1220	Principles of Chemistry II	4
CHEM 1225	Principles of Chemistry II Lab	1

ENGL 1010	Introduction to Writing	3
LIB 1010	Information Literacy	1
GEO 1110	Physical Geology meets General Education (Exploration) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)	3
GEO 1115	Physical Geology Lab	1
Hours		18
<b>2nd Year</b>		
<b>Fall Semester</b>		
BIOL 3010	Evolution	3
BIOL 3030	Principles of Genetics	4
ENGL 2010	Intern Writing Selected Topics:	3
MATH 1080	Pre-Calculus with Trigonometry	5
General Education (American Institutions) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) <sup>1</sup>		3
Hours		18
<b>Spring Semester</b>		
BIOL 2320	Human Anatomy	3
BIOL 2325	Human Anatomy Lab	2
BIOL 3040	General Ecology	3
BIOL 3045	General Ecology Lab	1
GEOG 1020	Introduction to Weather	3
GEOG 1025	Introduction to Weather Lab	1
BIOL Requirement (Approved Zoology course)		3
General Education (Social & Behavioral Sciences / GLOCUP) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) <sup>1</sup>		3
Hours		19
<b>3rd Year</b>		
<b>Fall Semester</b>		
CHEM 2310	Organic Chemistry I	4
CHEM 2315	Organic Chemistry I Lab	1
EDUC 2010	Intro to Exceptional Learners	3
EDUC 2400	Foundations Multicultural/ESL meets General Education (GLOCUP) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)	3
PHYS 1040	Elementary Astronomy	3
PHYS 1045	Elementary Astronomy Lab	1
BIOL Requirement (Approved Micro course)		4
Hours		19
<b>Spring Semester</b>		
BIOL 2420	Human Physiology	3
BIOL 2425	Human Physiology Lab	1
EDUC 2500	Instructional Technology in K-12 Classrooms	3
EDUC 3110	Educational Psychology	3
PHYS 2010	College Physics I	4
PHYS 2015	College Physics I Lab	1
General Education (Literature/Humanities) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
Hours		18
<b>4th Year</b>		
<b>Fall Semester</b>		
SCED 3720	Reading Writing Content Areas	3
SCED 4100	Curriculum, Instruction, and Assessment	3
SCED 4600	Classroom Management	3
SCI 2600	Lab Safety for Teachers	1
SCI 4700	Secondary Science Teaching Methods	3

BIOL Requirement (Approved Zoology course)		3
	Hours	16
<b>Spring Semester</b>		
SCED 4900	Secondary Student Teaching	10
SCED 4989	Student Teaching Seminar	2
	Hours	12
	Total Hours	139

<sup>1</sup> Specific courses fulfill SET requirements