

Degree: Biology BS
Transfer 2-Year Academic Roadmap

Year 1: Junior Year					Year 2: Senior Year					Year Total	
										31	
Fall	Term(s)	Pre-req	Pre-req Course(s)	Units	Spring	Term(s)	Pre-req	Pre-req Course(s)	Units		
BIOL Group A or B	Fall & Spring	✓	BIOL 2020	4	BIOL Group A or B	Fall & Spring	✓	BIOL 2020	4		
BIOL Group C or D	Fall & Spring	✓	BIOL 2020	4	BIOL Group C or D	Fall & Spring	✓	BIOL 2020	4		
Free elective				3	Free elective				3		
GE				3	GE				3		
					WI Course or elective				3		
Semester Total				14	Semester Total				17		
										29	
Fall	Term(s)	Pre-req	Pre-req Course(s)	Units	Spring	Term(s)	Pre-req	Pre-req Course(s)	Units		
BIOL major elective	Fall & Spring	✓	BIOL 2020	4	BIOL major elective	Fall & Spring	✓	BIOL 2020	4		
BIOL major elective	Fall & Spring	✓	BIOL 2020	4	BIOL major elective	Fall & Spring	✓	BIOL 2020	4		
BIOL 5000	Fall & Spring	✓	BIOL 2020	1	Free elective				3		
GE				3	Free elective				3		
Free elective				3							
Semester Total				15	Semester Total				14		
										60	
										Degree Units Total	

*Course may be offered in summer

Notes:

Students that have not taken 1 yr organic chemistry and/or physics should take these in place of the free electives (see below)

Organic/Biochem/Quantitative Chemistry options (take one of the three below):

CHEM 2400+2400L and CHEM 2500+2500L (1 year organic chem)

CHEM 2300 + 2400L and CHEM 4100+4100L (1 sem. organic + 1 sem. biochem)

CHEM 2300 + 2400L and CHEM 3200 (1 sem. organic + quantitative chem)

Physics options (Take one of the two below):

PHYS 2000 + 2000L and PHYS 2010 + 2010L

PHYS 2500 + 2500L, PHYS 2510 + PHYS 2510L, and PHYS 2700

GE courses should include GE-B5, GE-C4, GE-D4

Students may overlay Global Perspectives (G), Diversity and Inclusiveness (DI), and Writing Intensive (WI) with GE courses.

One G and one DI course are required. Two WI courses are required, one as upper division.

Some BIOL majors courses may satisfy the WI requirement.

B.S. in Biology semester degree requirements

Arrows indicate prerequisites

Completion of or enrollment in Math
1301, 1303, 1401, 1601, 2210, or 2220

General Chemistry (Year 1)

Chem 2100 + 2100L
↓
Chem 2200 + 2200L

2nd year Chemistry (Year 2):
Choose from the following

1 yr Organic Chemistry
Chem 2400 + 2400L
↓
Chem 2500 + 2500L
or
Organic + Biochemistry
Chem 2300 + 2400L
↓
Chem 4100 + 4100L
or
Organic + Quantitative Chem.
Chem 2300 + 2400L
Chem 3200

(Years 1-4)

General Ed. (GE) classes

Intro. Biol. (Year 2)

Biol 2010
↓
Biol 2020

Biol. Seminar
(Year 3 or 4)

Biol 5000

29 units upper division Biology, including at least one
class from each of Groups A, B, C and D (Years 3-4)*

Group A (Cell/Molecular)

Biol 3100, 3120, 3200, 3300

Group B (Zoology)

Biol 3410, 3420, 3430, 3440, 3450,
3460, 3630, 3640

Group C (Botany)

Biol 3520, 3540, 4510, 4580

Group D (Populations and Ecosystems)

Biol 3700, 3800, 3820

Math 1301, 1303 and/or 1401

Calculus (Year 1)

Math 2210

General Physics (Year 2 or 3):
Choose from the following

Phys 2000 + 2000L
↓
Phys 2010 + 2010L
or
Phys 2500 + 2500L
↓
Phys 2510 + 2510L
↓
Phys 2700

*Some upper division Biology
classes may have Organic
Chemistry, Biochemistry, or
Calculus as prerequisites.

Biology Courses (Semesters)

Semester BIOL course number	Units	Group	Semester course title
2010	5		Principles of Biology I (Cellular Biology, Bacteria, Plants)
2020	5		Principles of Biology II (Fungi, Animals, Populations)
3100	4	A	Cell Biology
3120	4	A	Molecular Biology
3130	2		Biology of Stem Cells
3200	4	A	Microbiology
3300	4	A	Genetics
3400	3		Comparative Embryology
3410	4	B	Biology of Invertebrates
3420	5	B	Comparative Biology of the Vertebrates
3430	3	B	Mammalogy
3440	3	B	Herpetology
3450	3	B	Ornithology
3460	3	B	Entomology
3520	3	C	Local Flora
3540	4	C	Plant biology and diversity
3630	4	B	Comparative Animal Physiology I
3640	4	B	Comparative Animal Physiology II
3700	4	D	Evolution
3800	4	D	Ecology
3820	4	D	Microbial Ecology
4200	5		Medical Microbiology
4270	5		Functional Microbial Genomics
4400	4		Developmental Biology
4510	5	C	Plant Physiology
4580	3	C	Medical and Economic Botany
4630	5		Human Anatomy and Physiology I
4640	5		Human Anatomy and Physiology II

5000	1		Biology Seminar
5010	1		Ethics in Biological Research
5050	4		Biostatistics and Experimental Design
5100	4		Experimental Cellular Analysis
5130	3		Animal Tissue Culture
5150	3		Neurobiology
5160	2		Introduction to Regulatory Affairs in the Life Sciences
5170	2		Laboratory in Human Embryonic Stem Cell Culture
5260	4		Genomics
5280	3		Advanced Molecular Genetics
5300	3		Microscopy
5310	4		Advanced Molecular Techniques
5320	4		Virology
5370	5		Immunology
5420	3		Advanced Vertebrate Morphology
5550	4		Comparative Biomechanics
5670	3		Endocrinology
5720	4		Population Genetics
5820	3		Vertebrate Field Biology
5840	4		Conservation Biology
5850	3		Global Change Biology
5860	4		Physiological Ecology

Note: Some independent study/research/internship courses are not shown.