Biology Curriculum Guides

The following are curriculum guides for a four-year Biology degree program and is subject to change without notice. Students should consult a Biology program advisor to ensure that they have the most accurate and up-to-date information available about a particular four-year degree option.

- Biology Major with Emphasis in Animal Biology Curriculum Guide Example
- Biology Major with Emphasis in Aquaculture Curriculum Guide Example
- · Biology Major with Emphasis in Aquatic Ecology and Fisheries Curriculum Guide Example
- Biology Major with Emphasis in Ecology & Conservation Biology Curriculum Guide Example
- Biology Major with Emphasis in Cell/Molecular Biology Curriculum Guide Example
- Biology Major with Emphasis in Biology for Educators Curriculum Guide Example

Biology Major with Emphasis in Animal Biology

An example: Four year plan for **Biology Major with Emphasis in Animal Biology** 120 credits necessary to graduate. Assumes an 18-credit interdisciplinary minor. Plan is a representation and categories of classes can be switched. Check with your advisor.

Course	Title	Credits
Freshman		
Fall		
BIOLOGY 201 & BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes and Principles of Biology Lab: Cellular and Molecular Processes	4
CHEM 211	Principles of Chemistry I	5
& CHEM 213	and Principles of Chemistry I Laboratory	
First Year Seminar		3
General Ed		3
	Credits	15
Spring		
BIOLOGY 203 & BIOLOGY 204	Principles of Biology: Organisms, Ecology, and Evolution and Principles of Biology Lab: Organisms, Ecology, and Evolution	4
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory	5
MATH 260	Introductory Statistics	4
General Ed / Core Minor		3
	Credits	16
Sophomore		
Fall		
BIOLOGY 307 & BIOLOGY 308	Cell Biology and Cell Biology Laboratory (or Biology 302)	4
MATH 202	Calculus and Analytic Geometry I	4
WF 105	Research and Rhetoric	3
General Ed / Core Minor		3
General Ed		3
	Credits	17
Spring		
BIOLOGY 303	Genetics	3
BIOLOGY 309	Evolutionary Biology	3
General Ed		3
General Ed		3

Core Minor		3
	Credits	15
Junior		
Fall		
ENV SCI 302	Principles of Ecology	4
General Ed		3
Biology Elective		3-4
Biology Elective		3-4
Elective / Minor		3
	Credits	16-18
Spring		
BIOLOGY 346	Comparative Physiology	3
General Ed		3
Biology Elective		3-4
Biology/Minor Elective		3-4
Elective		3
	Credits	15-17
Senior		
Fall		
BIOLOGY 490	Biology Seminar (fall or spring)	1
BIOLOGY 498 or BIOLOGY 497	Independent Study or Internship	2-3
General Ed		3
Biology Elective		3
Elective for Minor		3
Elective		3
	Credits	15-16
Spring		
BIOLOGY 490	Biology Seminar (fall or spring)	1
Biology Elective		3-4
Elective for Minor		3-4
Elective		3-4
Elective		3-4
	Credits	13-17
	Total Credits	122-131

Biology Major with Emphasis in Aquaculture

Course	Title	Credits
Freshman		
Fall		
BIOLOGY 201	Principles of Biology: Cellular and Molecular Processes	3
BIOLOGY 202	Principles of Biology Lab: Cellular and Molecular Processes	1
CHEM 211	Principles of Chemistry I	4
CHEM 213	Principles of Chemistry I Laboratory	1
First Year Seminar		3
General Ed		3
	Credits	15
Spring		
BIOLOGY 203	Principles of Biology: Organisms, Ecology, and Evolution	3
BIOLOGY 204	Principles of Biology Lab: Organisms, Ecology, and Evolution	1
CHEM 212	Principles of Chemistry II	4

CHEM 214	Principles of Chemistry II Laboratory	1
MATH 260	Introductory Statistics	4
General Ed		3
	Credits	16
Sophomore		
Fall		
BIOLOGY 303	Genetics	3
MATH 104	Precalculus	4
or MATH 202	or Calculus and Analytic Geometry I	
WF 105 or INFO SCI 390	Research and Rhetoric or Technical Writing	3
General Ed	g	3
General Ed		3
	Credits	16
Spring		
BIOLOGY 307	Cell Biology	4
& BIOLOGY 308	and Cell Biology	
	Laboratory	
BIOLOGY 323	Principles of Microbiology	4
& BIOLOGY 324	and Principles of	
	Microbiology Laboratory	
ENV SCI 302	Principles of Ecology	4
BIOLOGY 309	Evolutionary Biology	3
General Ed		3
	Credits	18
Junior		
Fall		
ENV SCI 469	Conservation Biology	4
ENV SCI 403 or ENV SCI 401	Limnology or Stream Ecology	4
BIOLOGY 360	Early Life History of Fish	3
General Ed		3
	Credits	14
Spring		
BIOLOGY 341	Ichthyology	4
BIOLOGY 322	Environmental	4
	Microbiology	
BIOLOGY 346	Comparative Physiology	3
BIOLOGY 370	Fisheries Research and	3
	Management	
General Ed	- "	3 17
	Credits	17
Senior		
Fall		
BIOLOGY 490	Biology Seminar	1
ENV SCI 467	Capstone in Environmental Science	4
Maior Floring	Environmental Science	3-4
Major Elective Major Elective		3-4
General Ed		
Octional Ed	Credits	14-16
Spring	Cieuls	14-10
BIOLOGY 401	Fish and Wildlife	4
	Population Dynamics	
BIOLOGY 449	Wetland Ecology	3
Major Elective		-4
Major Elective		3-4
	Credits	10-15
	Total Credits	120-127

Biology Major with Emphasis in Aquatic Ecology & Fisheries

Course	Title	Credits
Freshman		
Fall		
BIOLOGY 201	Principles of Biology: Cellular and Molecular Processes	3
BIOLOGY 202	Principles of Biology Lab: Cellular and Molecular Processes	1
CHEM 211	Principles of Chemistry I	4
CHEM 213	Principles of Chemistry I Laboratory	1
CHEM 207	Laboratory Safety	1
First Year Seminar		3
General Ed		3
Spring	Credits	16
Spring BIOLOGY 203	Principles of Biology: Organisms, Ecology, and	3
	Evolution Evolution	
BIOLOGY 204	Principles of Biology Lab: Organisms, Ecology, and Evolution	1
CHEM 212	Principles of Chemistry II	4
CHEM 213	Principles of Chemistry I Laboratory	1
MATH 260	Introductory Statistics	4
General Ed		3
Cambamara	Credits	16
Sophomore Fall		
BIOLOGY 303	Genetics	3
MATH 104 or MATH 202	Precalculus or Calculus and	4
	Analytic Geometry I	
WF 105 or INFO SCI 390	Research and Rhetoric or Technical Writing	3
General Ed		3
General Ed	Credits	3 16
Junior Fall	Credits	10
BIOLOGY 360	Early Life History of Fish	3
ENV SCI 469	Conservation Biology	4
ENV SCI 403	Limnology	4
or ENV SCI 401	or Stream Ecology	
General Ed		3
Spring	Credits	14
BIOLOGY 341	Ichthyology Environmental	4
BIOLOGY 322	Microbiology	4
BIOLOGY 346	Comparative Physiology	3
BIOLOGY 370	Fisheries Research and Management	3
General Ed		3
Outle	Credits	17
Senior Fall		
BIOLOGY 490	Biology Seminar	1
ENV SCI 467	Capstone in	4
	Environmental Science	
Major Elective		3-4

Major Elective		3-4
General Ed		3
	Credits	14-16
Spring		
BIOLOGY 401	Fish and Wildlife	4
	Population Dynamics	
BIOLOGY 449	Wetland Ecology	3
Major Elective		3-4
Major Elective		3-4
	Credits	13-15
	Total Credits	106-110

Biology Major with Emphasis in Cell/Molecular

An example: Four year plan for **Biology Major with Emphasis in Cell/Molecular** 120 credits necessary to graduate. Assumes an 18-credit minor.

Plan is a representation and categories of classes can be switched. Check with your advisor.

Course	Title	Credits
Freshman		
Fall		
BIOLOGY 201 & BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes and Principles of Biology Lab: Cellular and	4
OUTHOU	Molecular Processes	-
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory	5
First Year Seminar		3
General Ed		3
Spring	Credits	15
BIOLOGY 203 & BIOLOGY 204	Principles of Biology: Organisms, Ecology, and Evolution and Principles of Biology Lab: Organisms, Ecology, and Evolution	4
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory	5
MATH 260	Introductory Statistics	4
General Ed / Core Minor		3
	Credits	16
Sophomore Fall		
BIOLOGY 323 & BIOLOGY 324	Principles of Microbiology and Principles of Microbiology Laboratory	4
MATH 202	Calculus and Analytic Geometry I	4
WF 105	Research and Rhetoric	3
General Ed		3
Elective		3
	Credits	17
Spring		
BIOLOGY 303	Genetics	3
BIOLOGY 309	Evolutionary Biology	3
General Ed		3
General Ed		3
Elective		3
	Credits	15

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	Total Credits	123-127
	Credits	13-17
Elective		3-4
Elective		3-4
Elective for Minor		3-4
Biology Elective		3-4
BIOLOGY 490	Biology Seminar (fall or spring)	1
Spring		
	Credits	16
Elective		3
Elective for Minor		3
Biology Elective		3
General Ed		3
Elective		3
BIOLOGY 490	Biology Seminar (fall or spring)	1
Fall		
Senior	Credits	16
Elective		3
Elective		3
General Ed		3
BIOLOGY 407		
a offenious	Chemistry Laboratory (or Organic I in Fall)	
CHEM 330 & CHEM 301	Biochemistry and Bio-Organic	4
BIOLOGY 346	Comparative Physiology	3
Spring		
	Credits	15
General Ed		3
& CHEM 304	and Organic Chemistry Laboratory I (or Bio- Organic in Spring)	
CHEM 302	Organic Chemistry I	4
ENV SCI 302	Laboratory Principles of Ecology	4
BIOLOGY 307 & BIOLOGY 308	Cell Biology and Cell Biology	4
Fall	0.118:1	
Junior		

Biology Major with Emphasis in Ecology & Conservation

An example: Four year plan for **Biology Major with Emphasis in Ecology and Conservation Biology** 120 credits necessary to graduate. Assumes an 18-credit minor.

Plan is a representation and categories of classes can be switched. Check with your advisor.

Course	Title	Credits
Freshman		
Fall		
BIOLOGY 201	Principles of Biology: Cellular and Molecular Processes	3
BIOLOGY 202	Principles of Biology Lab: Cellular and Molecular Processes	1
CHEM 211	Principles of Chemistry I	4
CHEM 213	Principles of Chemistry I Laboratory	1
First Year Seminar		3
General Ed		3
	Credits	15

Spring		
BIOLOGY 203	Principles of Biology:	3
	Organisms, Ecology, and Evolution	
BIOLOGY 204	Principles of Biology Lab:	1
	Organisms, Ecology, and Evolution	
CHEM 212	Principles of Chemistry II	4
CHEM 214	Principles of Chemistry II Laboratory	1
MATH 260	Introductory Statistics	4
General Ed		3
	Credits	16
Sophomore Fall		
BIOLOGY 307	Cell Biology	4
& BIOLOGY 308	and Cell Biology Laboratory	-
MATH 202	Calculus and Analytic	4
	Geometry I	
WF 105	Research and Rhetoric	3
General Ed/Core Minor		3
General Ed		3
	Credits	17
Spring		
BIOLOGY 303	Genetics	3
ENV SCI 302	Principles of Ecology	4
General Ed		3
General Ed		3
Core Minor		3
	Credits	16
Junior		
Fall		
BIOLOGY 323	Principles of Microbiology	4
& BIOLOGY 324	and Principles of	
	Microbiology Laboratory	
BIOLOGY 309		
	Evolutionary Biology	3
ENV SCI 469	Evolutionary Biology Conservation Biology	4
ENV SCI 469 General Ed		4
ENV SCI 469	Conservation Biology	4 3 3
ENV SCI 469 General Ed Elective / Minor		4
ENV SCI 469 General Ed Elective / Minor Spring	Conservation Biology	4 3 3 17
ENV SCI 469 General Ed Elective / Minor Spring General Ed	Conservation Biology	4 3 3 17
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective	Conservation Biology	4 3 3 17 3 3-4
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective	Conservation Biology	4 3 3 17 3 3-4 3-4
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective	Conservation Biology	4 3 3 17 3 3-4 3-4 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective	Conservation Biology Credits	4 3 3 17 3 3-4 3-4 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective	Conservation Biology	4 3 3 17 3 3-4 3-4 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective	Conservation Biology Credits	4 3 3 17 3 3-4 3-4 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Senior Fall	Conservation Biology Credits Credits	4 3 3 17 3 4 3-4 3 3 15-17
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Senior Fall BIOLOGY 490	Conservation Biology Credits Credits Biology Seminar (fall or spring)	4 3 3 17 3 3-4 3-4 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 498	Conservation Biology Credits Credits Biology Seminar (fall or spring) Independent Study	4 3 3 17 3 4 3-4 3 3 15-17
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 498 or BIOLOGY 497	Conservation Biology Credits Credits Biology Seminar (fall or spring)	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 497 General Ed	Conservation Biology Credits Credits Biology Seminar (fall or spring) Independent Study	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 498 or BIOLOGY 497 General Ed Biology Elective	Conservation Biology Credits Credits Biology Seminar (fall or spring) Independent Study	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 498 or BIOLOGY 497 General Ed Biology Elective Elective Elective	Conservation Biology Credits Credits Biology Seminar (fall or spring) Independent Study	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 498 or BIOLOGY 497 General Ed Biology Elective	Credits Credits Biology Seminar (fall or spring) Independent Study or Internship	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3 3 3 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 498 or BIOLOGY 497 General Ed Biology Elective Elective Elective	Conservation Biology Credits Credits Biology Seminar (fall or spring) Independent Study	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 498 or BIOLOGY 497 General Ed Biology Elective Elective Elective Spring	Credits Credits Biology Seminar (fall or spring) Independent Study or Internship Credits	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3 15-16
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 498 or BIOLOGY 497 General Ed Biology Elective Elective Elective Elective Elective Elective Elective	Credits Credits Biology Seminar (fall or spring) Independent Study or Internship	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3 3 3 3
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 497 General Ed Biology Elective Elective Serior Fall BIOLOGY 498 or BIOLOGY 497 General Ed Biology Elective Elective Elective Spring	Credits Credits Biology Seminar (fall or spring) Independent Study or Internship Credits Credits	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3 15-16
ENV SCI 469 General Ed Elective / Minor Spring General Ed Biology Elective Biology/Minor Elective Elective Elective Senior Fall BIOLOGY 490 BIOLOGY 497 General Ed Biology Elective Elective Senior Fall BIOLOGY 497 General Ed Biology Elective Elective Elective Spring BIOLOGY 490	Credits Credits Biology Seminar (fall or spring) Independent Study or Internship Credits Credits	4 3 3 17 3 3-4 3-4 3 15-17 1 2-3 3 3 15-16

	Total Cradits	124-121
	Credits	13-17
Elective		3-4
Elective		3-4

Biology Major with Emphasis in Biology for Educators

An example: Four year plan for **Biology Major with Emphasis in Biology for Educators**

120 credits necessary to graduate. Assumes an 18-credit interdisciplinary minor.

Plan is a representation and categories of classes can be switched. Check with your advisor.

Course	Title	Credits
Freshman		
Fall		
BIOLOGY 201 & BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes	4
	and Principles of Biology Lab: Cellular and Molecular Processes	
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory	5
First Year Seminar	, ,	3
General Ed		3
	Credits	15
Spring		
BIOLOGY 203	Principles of Biology:	4
& BIOLOGY 204	Organisms, Ecology, and	
	Evolution and Principles of	
	Biology Lab: Organisms,	
	Ecology, and Evolution	
CHEM 212	Principles of Chemistry II	5
& CHEM 214	and Principles of	
MATH 260	Chemistry II Laboratory Introductory Statistics	4
General Ed / Core Minor	introductory Statistics	3
Collotal Ext / Colle Willion	Credits	16
Sophomore	Oredita	10
Fall		
BIOLOGY 307	Cell Biology	4
& BIOLOGY 308	and Cell Biology	
	Laboratory (or Biology 302)	
MATH 202	Calculus and Analytic	4
MINITE EVE	Geometry I	7
WF 105	Research and Rhetoric	3
General Ed / Core Minor		3
General Ed		3
	Credits	17
Spring		
BIOLOGY 303	Genetics	3
BIOLOGY 309	Evolutionary Biology	3
General Ed		3
General Ed		3
Core Minor		3
	Credits	15
Junior		
Fall	Dringinles of Earless	
ENV SCI 302	Principles of Ecology	4
General Ed Biology Elective		3-4
Biology Elective Biology Elective		3-4
biology Elocatio		3-4

Elective / Minor		3
	Credits	16-18
Spring		
BIOLOGY 346	Comparative Physiology	3-4
or BIOLOGY 311	or Plant Physiology	
General Ed		3
Biology Elective		3-4
Biology / Minor Elective		3-4
Elective		3
	Credits	15-18
Senior		
Fall		
BIOLOGY 490	Biology Seminar (fall or	1
	spring)	
General Ed		3
General Ed		3
Elective		3
Elective		3
Elective		3
	Credits	16
Spring		
BIOLOGY 490	Biology Seminar (fall or	1
	spring)	
Elective		3
	Credits	13
	Total Credits	123-128