

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

Major Elective		3-4
General Ed		3
	Credits	14-16
Spring		
BIOLOGY 401	Fish and Wildlife Population Dynamics	4
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 Molecular Processes	4
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 & 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

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

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: 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 307 & BIOLOGY 308	Cell Biology and Cell Biology Laboratory	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
ENV SCI 302	Principles of Ecology	4
General Ed		3
General Ed		3
Core Minor		3
		Credits
		16
Junior		
Fall		
BIOLOGY 323 & BIOLOGY 324	Principles of Microbiology and Principles of Microbiology Laboratory	4
BIOLOGY 309	Evolutionary Biology	3
ENV SCI 469	Conservation Biology	4
General Ed		3
Elective / Minor		3
		Credits
		17
Spring		
General Ed		3
Biology Elective		3-4
Biology/Minor Elective		3-4
Elective		3
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 124-131

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 and Principles of Biology Lab: Cellular and Molecular Processes	4
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 & 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 or BIOLOGY 311	Comparative Physiology or Plant Physiology	3-4
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 spring)	1
General Ed		3
General Ed		3
Elective		3
Elective		3
Elective		3
	Credits	16
Spring		
BIOLOGY 490	Biology Seminar (fall or spring)	1
Elective		3
Elective		3
Elective		3
Elective		3
	Credits	13
	Total Credits	123-128