

BS BIOLOGICAL SCIENCES
2007-09 Cal Poly Catalog
Biological Sciences Department
Fisher Science Hall (33), Room 273
(805) 756-2788

- ☐ 60 units upper division ☐ GWR
☐ 2.0 GPA ☐ USCP

* = Satisfies General Education requirement

Course sequencing: See flowcharts at www.calpoly.edu/~cosamac

MAJOR COURSES

BIO 160 Diversity & the History of Life	4
BIO 161 Intro to Cell & Molecular Bio (B2&B4)*	4
BIO 162 Intro to Organismal Form & Function.....	5
BIO 263 Introductory Ecology and Evolution	4
BIO 351 Principles of Genetics.....	5
BIO 414 Evolution	4
BIO 461 Senior Project – Research Proposal <i>or</i>	
BIO 462 Senior Project – Research.....	2
¹ <i>Biological Diversity:</i>	4
BIO 328, BIO 415, BOT 313, BOT 323, BOT	
334, BOT 433, BOT 437, MCRO 224, MCRO	
402, ZOO 321, ZOO 322, ZOO 323, ZOO 329,	
ZOO 335, ZOO 336, ZOO 341, ZOO 425	
² <i>Ecology:</i> BIO 318, BIO 325, BOT 326, MCRO 436	4
³ <i>Physiology:</i> BIO 361, BIO 434, BIO 435	4
Concentration	39
	79

SUPPORT COURSES

CHEM 127 General Chemistry (B3&B4)*	4
CHEM 128, 129 General Chemistry	4, 4
⁴ CHEM 312 Survey of Organic Chemistry <i>or</i>	
CHEM 316 Organic Chemistry I	5
MATH 161, 162 Calculus/Life Sciences I, II (B1)*	4, 4
PHYS 121, 122, 123 College Physics I, II, III....	4, 4, 4
STAT 218 Appl Statistics-Life Sciences (B1)*	4
	41

GENERAL EDUCATION (GE)

72 units required; 16 units are in Major/Support.
→See page 56 for complete GE course listing.
→Minimum of 12 units required at the 300-400 level.

Area A Communication (12 units)

A1 Expository Writing	4
A2 Oral Communication	4
A3 Reasoning, Argumentation, and Writing	4

Area B Science and Mathematics (no add'l units req'd)

B1 Mathematics/Statistics * 8 units in Support....	0
B2 Life Science * 4 units in Major.....	0
B3 Physical Science * 4 units in Support	0
B4 One lab taken with either a B2 or B3 course	

Area C Arts and Humanities (20 units)

C1 Literature	4
C2 Philosophy	4
C3 Fine/Performing Arts	4
C4 Upper-division elective	4
Area C elective (Choose one course from C1-C4)	4

Area D/E Society and the Individual (20 units)

D1 The American Experience (40404)	4
D2 Political Economy	4
D3 Comparative Social Institutions	4

D4 Self Development (CSU Area E)	4
D5 Upper-division elective	4
Area F Technology Elective (upper division)(4 units)	4
	56
ELECTIVES	4
	180

Concentrations (select one)

Anatomy and Physiology Concentration

BIO 432 Vertebrate/Human Anatomy & Phys I	5
BIO 433 Vertebrate/Human Anatomy & Phys II	5
BIO 452 Cell Biology.....	4
CHEM 371 Biochemical Principles <i>or</i> CHEM 313	
Survey of Biochemistry and Biotechnology	5
⁵ Advisor approved electives.....	20
	39

Ecology Concentration

<i>Ecology (Choose 4 courses)</i>	15-17
BIO 318, BIO 328, BIO 415, BIO 434, BIO 444,	
BOT 326, MCRO 436, ZOO 423, ZOO 437	
<i>Methodology (Choose 3 courses)</i>	10-12
BIO/CHEM 375, BIO 419, FNR/GEOG/LA 318,	
FNR 416, STAT 313, STAT 419	
Advisor approved electives	10-14
	39

Field and Wildlife Biology Concentration

BOT 313 Taxonomy of Vascular Plants.....	4
BOT 433 Field Botany	4
ZOO 321 Mammalogy.....	4
ZOO 323 Ornithology	4
Emphasis Area (choose one)	23
<i>Field Biology Emphasis</i>	
ZOO 335 General Entomology (4)	
ZOO 341 Herpetology (4)	
ZOO 437 Animal Behavior (4)	
BIO 318/ZOO 322/ZOO 423 (4)	
Advisor approved electives (7)	
<i>Wildlife Biology Emphasis</i>	
BIO 327 Wildlife Biology Methods (5)	
BIO 427 Wildlife Management (4)	
BIO 444 Population Ecology (3)	
FNR 416 Environmental Impact Analysis/Mgmt (4)	
FNR 203 Resource Law Enforcement (3)	
STAT 313 Applied Experimental Design &	
Regression Models (4)	
	39

¹ Students in the Molecular and Cellular Biology concentration should take MCRO 224 to fulfill this requirement.
² Students in the Ecology concentration should take BIO 325 to fulfill this Ecology requirement.
³ Students in the Ecology concentration should take BIO 435 to fulfill this Physiology requirement.
⁴ Students in the Molecular and Cellular Biology concentration should take CHEM 316 to fulfill this requirement.
⁵ Guidelines are available for advisor approved electives in most concentrations. See your faculty advisor for assistance.

General Biology Concentration

BIO 452 Cell Biology.....	4
CHEM 313 Survey of Biochem and Biotech	5
Anatomy/Physiology.....	4
BIO 432 ¹ , BIO 433, BIO 434, BIO 435, BOT 335, MCRO 424, ZOO 422	
Botany.....	4
BOT 313, BOT 323, BOT 334, BOT 335, BOT 433, BOT 437	
Microbiology	3-5
BIO 426, MCRO 224, MCRO 225, MCRO 320 ¹ , MCRO 342, MCRO 402, MCRO 421, MCRO 433, MCRO 436, ZOO 428	
Zoology.....	4
BIO 318, BIO 328, ZOO 321, ZOO 322, ZOO 323, ZOO 329, ZOO 335, ZOO 336, ZOO 341, ZOO 425	
Advisor approved electives	13-15
	<u>39</u>

Marine Biology and Fisheries Concentration

BIO 328 Marine Biology.....	5
BIO/CHEM 375 Molecular Biology Laboratory.....	2
BOT 437 Phycology	4
STAT 313 Applied Experimental Design and Regression Models	4
ZOO 322 Ichthyology	4
ZOO 336 Invertebrate Zoology.....	4
² Advisor approved electives	16
	<u>39</u>

Molecular and Cellular Biology Concentration

BIO/CHEM 375 Molecular Biology Laboratory.....	2
BIO 452 Cell Biology.....	4
CHEM 317 Organic Chemistry II	5
CHEM 371 Biochemistry	5
CHEM 372 Metabolism	3
CHEM 474 Protein Techniques Laboratory <i>or</i> BIO/CHEM 476 Gene Expression Laboratory	2
Choose 8 units from the following	8
BIO 405, BIO/CHEM 441, BOT 450, CHEM 473 <i>or</i> BIO 426, MCRO 402, MCRO 433, SCM 201	
² Advisor approved electives	10
	<u>39</u>

Systematics and Biodiversity Concentration

BIO 343 Principles of Systematic Biology.....	4
BIO/CHEM 375 Molecular Biology Laboratory.....	2
BIO 415 Biogeography	4
BIO/CHEM 441 Bioinformatics Applications	4
STAT 313 Applied Experimental Design and Regression Models	4
STAT 419 Applied Multivariate Statistics	4
² Advisor approved electives	17
	<u>39</u>

¹ Students planning to earn a single subject credential for teaching Biology should take BIO 432 and MCRO 320 and contact the credential advisor to identify other required courses.

² Guidelines are available for advisor approved electives in most concentrations. See your faculty advisor for assistance.