



California State University Channel Islands

Bachelor of Science

BIOLOGY: Cell and Molecular Biology

Advisement Form 2007-2008

Name _____ ID _____

B.S. in Biology with Emphasis in Cell & Molecular Biology major is 78-79 units. A minimum of 120 units are required for graduation.

Lower Division Major Requirements (8 units)		Instit.	Course	Units	Grade	Term	Prerequisites, GE & comments
BIOL 200 Principles of Organismal and Population Biology	4						GE: B2
BIOL 201 Principles of Cell and Molecular Biology <i>Must receive grade of C or better</i>	4						Prereq: CHEM 105 or 121; GE: B2
Required Supporting Courses (30-31 units)							
Chemistry (minimum 15 units). <i>A year-long organic chemistry sequence with laboratory taken at a community college may be accepted in lieu of CHEM 311, 312, 314, 315.</i>							
CHEM 121 General Chemistry I <i>Must receive grade of C or better</i>	4						Prereq: 1 year high school chemistry or CHEM 105; GE: B1
CHEM 122 General Chemistry II <i>Must receive grade of C or better</i>	4						Prereq: CHEM 121; GE: B1
CHEM 311 Organic Chemistry I <i>Must receive grade of C or better</i>	3						Prereq: CHEM 122
CHEM 312 Organic Chemistry I Lab <i>Must receive grade of C or better</i>	1						Prereq: CHEM 311 (or taken concurrently)
And select either:							
CHEM 318 Biological Chemistry	3						Prerequisite: CHEM 311 with a grade of C or better
Or							
CHEM 314 Organic Chemistry II <i>Must receive grade of C or better</i>	3						Prereq: CHEM 311
CHEM 315 Organic Chemistry II Lab	1						Prereq: CHEM 311, 312, and 314 (or taken concurrently)
Physics (8 units)							
Select either							
PHYS 100 Introduction to Physics I	4						GE: B1
PHYS 101 Introduction to Physics II	4						Prereq: PHYS 100; GE: B1
Or							
PHYS 200 General Physics I	4						Prereq: MATH 150; GE: B1
PHYS 201 General Physics II	4						Prereq: PHYS 200; GE: B1
Statistics, Mathematics and Computer Applications (7 units)							
BIOL 203 Quantitative Methods for Biology	3						Prereq: A passing score entry level math exam (ELM) or MATH 105 or equivalent; GE: B3, B4
MATH 150 Calculus I	4						Prereq: A passing score on the Calculus Placement Exam or MATH 105; GE: B3
Upper Division Major Requirements (40 units)							
Biology (31 Units)							
BIOL 300 Cell Biology <i>Must receive grade of C or better</i>	4						Prereq: BIOL 201 with a grade of C or better & CHEM 122
BIOL 301 Microbiology	4						Prereq: BIOL 201 with a grade of C or better & CHEM 122
BIOL 302 Genetics <i>Must receive grade of C or better</i>	4						Prereq: BIOL 201 with a grade of C or better & CHEM 122
BIOL 303 Evolutionary Biology	3						Prereq: BIOL 200 & BIOL 201
BIOL 400 Molecular Biology	4						Prereq: BIOL 300 or 302 with a grade of C or better
BIOL 401 Biotechnology and Recombinant DNA Techniques	5						Prereq: BIOL 400 with a grade of C or better

Biology Requirements continued...		Instit.	Course	Units	Grade	Term	Prerequisites, GE & comments
BIOL 431 Bioinformatics	4						Prereq: BIOL 302 with a grade of C or better; GE: B2, B4, & INTD
BIOL 499 Senior Capstone in Biology	3						Prereq: Consent of instructor
Biology Electives (9 units) <i>Select a minimum of 9 units from the following:</i>							
BIOL 402 Toxicology	3						Prereq: BIOL 201 with a grade of C or better and CHEM 122
BIOL 403 Foundations of Structural Biology	4						Prereq: BIOL 300
BIOL 404 Plant and Animal Tissue Culture	3						
BIOL 405 Biochemical Engineering	4						Prereq: CHEM 318
BIOL 408 Nanobiotechnology	3						Prereq: BIOL 400
BIOL/PHYS 416 Radiobiology and Radionuclides	3						Prereq: BIOL 300 and PHYS 201
BIOL 420 Cellular and Molecular Immunology	4						Prereq: BIOL 300 with a grade of C or better and CHEM 122
BIOL 421 Virology	3						Prereq: BIOL 301 with a grade of C or better and CHEM 122
BIOL 422 Molecular Plant Physiology	4						Prereq: BIOL 300 with a grade of C or better
BIOL 423 Cellular and Molecular Neurobiology	3						Prereq: BIOL 300 with a grade of C or better and CHEM 122
BIOL 424 Human Physiology	3						Prereq: BIOL 300 with a grade of C or better and CHEM 122
BIOL 425 Human Genetics	3						Prereq: BIOL 300 and BIOL 302 with grades of C or better and CHEM 122
BIOL 427 Developmental Biology	4						Prereq: BIOL 300 with a grade of C or better and CHEM 122
BIOL 428 Biology of Cancer	3						Prereq: BIOL 300 with a grade of C or better and CHEM 122
BIOL 432 Principles of Epidemiology and Environmental Health	3						Prereq: BIOL 201 with a grade of C or better and CHEM 122; GE: B2, D, INTD.
BIOL 433 Ecology and the Environment	4						Prereq: BIOL 200; GE: B2, INTD
<i>No more than 2 units from the following may count towards the 9 units of Biology electives:</i>							
BIOL 492 Internship	2-3						Prereq: Consent of instructor and program approval
BIOL 494 Independent Research	1-3						Prereq: Consent of instructor and program approval
BIOL 497 Directed Study	1-3						Prereq: Consent of instructor and program approval

Additional University Graduation Requirements

9 Units Upper Division Interdisciplinary GE at CSUCI (courses numbered 330-349 or 430-449)		
Course 1 (in major) <u>BIOL 431</u>	Course 2 (in major) _____ (may choose BIOL 432 or 433)	Course 3 (outside of major) _____ (Choose from GE A-E)
American Institutions Requirements: US History _____ (Choose from HIST 270, 271, 272, 275 or 350)		State and Local Gov't <u>POLS 150</u>
<i>Students must receive a grade of C or better in the language and Multicultural Requirements</i>		
Language Requirement: GE C3a _____ (one semester of college level language)		
Multicultural Requirement: GE C3b _____		
<i>Minimum total units to graduate: 120 of which 40 must be upper division. Please see catalog for a complete list of graduation requirements.</i>		
Advisor _____	Date Completed: _____	
Advisor Comments: _____ _____		