

Point Loma Nazarene University		LO 1	LO 2	LO 3	LO 4	LO 5	LO 6
Environmental Science B.S. Curriculum Map - Students will be able to:		Demonstrate an understanding of the process of science and of the concepts and theories of biology across a broad range of organizational levels: molecular (M), cellular (C), organismal (O), and ecological (population, community, ecosystem) (E).	Apply key concepts and principles in analytical chemistry including quantitative and instrumental analysis.	Use standard instrumentation and laboratory equipment to conduct scientific experiments and perform chemical characterization and analyses.	Participate in the life of the Biology and/or Chemistry Department by involvement in one or more of the following areas: research, biology and/or chemistry clubs, and/or various positions of responsibility serving as graders, tutors, stockroom workers and/or teaching assistants.	Develop a rationally defensible integration of science and faith, particularly with regard to environmental stewardship.	Be prepared for post graduate studies or a science-related career.
Course	Course Title						
LOWER-DIVISION REQUIREMENTS		M C O E					
BIO 102	Environment and People		I I			I	I
BIO 210	Cell Biology and Biochemistry	I I				I	I
BIO 211	Ecological and Evolutionary Systems		I I			I	I
BIO 212	Organismal Biology		I				I
CHE 151	General Chemistry Tutorial <i>(can be waived)</i>			I			
CHE 152	General Chemistry I			I	I		
CHE 153	General Chemistry II			I	I		
CHE 213	Analytical Chemistry			D/M	D		
CHE 294	Organic Chemistry I				D		
UPPER-DIVISION REQUIREMENTS		M C O E					
BIO 345	Genetics	D D D				D	D
BIO 363	Conservation Ecology		D D			D	D
BIO 497*	Biology Seminar					M	M
CHE 370	Instrumental Analysis			M	M		
ADVANCED SCIENCE ELECTIVES (minimum 8 units)		M C O E					
BIO 312	Applied Plant Biology		D M D				D
BIO 315	Microbiology	D D D					D
BIO 323	Introduction to Oceanography		D D			D	D
BIO 325	Insect Biology		D				D
BIO 333	Marine Biology		D/M D/M			D	D
BIO 340	Field Biology		D D				D
BIO 410	Vertebrate Biology		D/M D/M			D/M	D
BIO 420	Vertebrate Physiology		D D/M				D
BIO 430	Animal Behavior		D/M D/M			D/M	D
BIO 473	Experimental Marine Ecology		M M				D
BIO450/CHE450	Advanced Biochemistry	M M					D
CHE 304	Organic Chemistry II						
CHE 325	Physical Chemistry I						
CHE 351	Organic Structure Elucidation						
CHE 466	Advanced Inorganic Chemistry I						
CHE 468	Advanced Inorganic Chemistry II						
Methodology Electives (minimum 1 course)		M C O E					
BIO 301	Research Methodology	D D D D					
BIO 490	Internship in Biology	M M M M					D/M
BIO 499	Research in Biology	M M M M					D/M
CHE 490	Internship in Chemistry						
CHE 499	Research in Chemistry						
Extracurricular Activities							
Advising (faculty, pre-health, pre-teaching)							I/D
Career Dinners							D
Science clubs and/or grader, tutor, stockroom worker, TA					I/D/M		I/D
Research					D/M		D/M
Internships							D/M

*Core competencies (critical thinking, information literacy, oral communication, quantitative literacy, written communication) assessed