

Point Loma Nazarene University		LO 1	LO 2	LO 3	LO 4	LO 5	LO 6
<b>Environmental Science B.S. Curriculum Map - Students will be able to:</b>		Demonstrate an understanding of the process of science and of the concepts and theories of biology across a broad range of organizational levels, as defined by the Vision and Change nationally validated set of core biology concepts (AAAS, 2011).	Apply key concepts and principles in analytical chemistry.	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						
<b>LOWER-DIVISION REQUIREMENTS</b>		<b>M C O E</b>					
BIO 1002	Environment and People		I I			I	I
BIO 2010/2010L	Cell Biology and Biochemistry	I	I			I	I
BIO 2011/2011L	Ecological and Evolutionary Systems		I I			I	I
BIO 2012/2012L	Organismal Biology		I				I
CHE 1052/1052L	General Chemistry I			I			
CHE 1053/1053L	General Chemistry II			I			
CHE 2013	Analytical Chemistry		D/M	D			
CHE 2094/2094L	Organic Chemistry I			D			
<b>UPPER-DIVISION REQUIREMENTS</b>		<b>M C O E</b>					
BIO 3045/3045L	Genetics	D	D D			D	D
BIO 3063/3063L	Conservation Ecology		D D			D	D
BIO 3083	Introduction to GIS						
BIO 4097	Biology Seminar					M	M
CHE 3070	Instrumental Analysis			M	M		
<b>ADVANCED SCIENCE ELECTIVES (minimum 8 units)</b>		<b>M C O E</b>					
BIO 3012	Applied Plant Biology		D M D				D
BIO 3015/3015L	Microbiology	D	D D				D
BIO 3023/3023L	Introduction to Oceanography		D D			D	D
BIO 3033/3033L	Marine Biology		D/M D/M			D	D
BIO 3040	Field Biology		D D				D
BIO 4010/4010L	Vertebrate Biology		D/M D/M			D/M	D
BIO 4023/4023L	Advanced Human Physiology		D D/M				D
BIO 4030/4030L	Animal Behavior		D/M D/M			D/M	D
BIO 4073/4073L	Experimental Marine Ecology		M M				D
BIO/CHE 4050/405	Advanced Biochemistry	M	M				D
CHE 2096/2096L	Organic Chemistry II						
CHE 3025/3025L	Physical Chemistry I						
CHE 3051	Organic Structure Elucidation						
CHE 4066	Advanced Inorganic Chemistry I						
CHE 4068	Advanced Inorganic Chemistry II						
<b>Methodology Electives (minimum 1 course)</b>		<b>M C O E</b>					
BIO 3052	Research Methodology	D	D D D				
BIO 4090	Internship in Biology	M	M M M				D/M
BIO 4099	Research in Biology	M	M M M				D/M
CHE 4090	Internship in Chemistry			D/M	D/M		M
CHE 4099	Research in Chemistry			D/M	D/M		M
<b>Extracurricular Activities</b>		<b>M C O E</b>					
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		M	M M M				D/M
Internships		M	M M M				D/M