Point Loma Nazarene University		LO 1	LO 2a	LO 2b	LO 2c	LO 2d	LO 3
Biology-Chemistry B.S. Curriculum Map - Students wi		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), and organismal (O).	Demonstrate understanding of and apply key concepts and principles in quantitative analysis.	Demonstrate understanding of and apply key concepts and principles in biochemistry.	Demonstrate understanding of and apply key concepts and principles in organic chemistry.	Demonstrate understanding of and apply key concepts and principles in physical chemistry (thermodynamics and kinetics).	Use standard instrumentation and laboratory equipment to conduct scientific experiments and perform chemical characterization and analyses.
Course	Course Title						
LOWER-DIVISION REQUIREMENTS		**M C O**					
BIO 2010	Cell Biology and Biochemistry	I I					
BIO 2011	Ecological and Evolutionary Systems	I					
BIO 2012	Organismal Biology	I					
CHE 1052	General Chemistry I		I	I	I	I	I
CHE 1053	General Chemistry II		I	I	I	I	I
CHE 2013	Analytical Chemistry		D / M			D	D
CHE 2094	Organic Chemistry I			D	D		D
UPPER-DIVISION REQUIREMENTS		**M C O**					
BIO 3045	Genetics	D D D					
BIO 3080	Molecular Biology	D/M D					
BIO 4097	Biology Seminar						
CHE 2096	Organic Chemistry II			D	M		M

CHE 3025	Physical Chemistry I					M	M
CHE 4066	Bioinorganic Chemistry			D			
BIO 4050/CHE 4050	Advanced Biochemistry	M M		M		D	M
One course from:		**M C O**					
CHE 3051	Organic Qualitative Analysis						
CHE 3026	Physical Chemistry II						
CHE 3070	Instrumental Analysis						
CHE 4053	Advanced Organic Chemistry						
CHE 4068	Advanced Inorganic Chemistry II						
At least 5 units from:		**M C O**					
BIO 3012	Applied Plant Science	D M					
BIO 3015/3015L	Microbiology	D D					
BIO 3023/3023L	Introduction to Oceanography	D					
BIO 3033/3033L	Marine Biology	D/M					
BIO 3040	Field Biology	D					
BIO 3050/3050L	Advanced Cell Biology	M M					
BIO 3052	Research Methodology	D D D					
BIO 3063/3063L	Conservation Ecology	D					
BIO 3090/3090L	Immunology	M M M					
BIO 4000/4000L	Developmental Biology	M M D					

BIO 4010/4010L	Vertebrate Biology	D/M					
BIO 4023/4023L	Advanced Human Physiology	D D/M					
BIO 4030/4030L	Animal Behavior	D/M					
BIO 4070	Neuroscience	D M M					
BIO 4073/4073L	Experimental Marine Ecology	M					
Other Activities							
Advising (academic, pre-health, pre-teaching, pre-industry)							
Career Events							
Science clubs and/or grader, tutor, stockroom worker, TA							
Undergraduate Research		M M M					
Internships		M M M					

LO 4	LO 5	LO 6
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	Be prepared for post graduate studies or a science-related career.
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		I/D
		D
I/D/M		I/D
D/M		D/M
		D/M