

UC San Diego - WASC Exhibit 7.1

Inventory of Educational Effectiveness Indicators

Academic Program	(1) Have formal learning outcomes been developed?	(2) What are these learning outcomes? Where are they published? (Please specify)	(3) Other than GPA, what data/evidence is used to determine that graduates have achieved stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)	(4) Who interprets the evidence? What is the process?	(5) How are the findings used?	(6) Date of last Academic Senate Review?
Department: <i>Scripps Institution of Oceanography</i> Major: <i>Earth Sciences</i>	Yes	The California Board for Geologists and Geophysicists administer examinations for becoming a licensed Professional Geologist: www.geology.ca.gov/forms-pubs/geolicensure.pdf. Our curriculum satisfies the academic course requirements recommended as preparation for students to take the licensure exam. Students graduating with a degree should be able to: 1) Recognize common rocks and minerals in hand sample and thin section. 2) Read topographic and geological maps and airphotos. 3) Make and analyze geological and geophysical measurement and interpret geological features in the field 4) Understand the origin, structure and history of the Earth and how the Earth System works. Learning outcomes published: • sioundergrad.ucsd.edu/curriculum/	• Minimum of Math 20A-D, Physics 2A-C, Chemistry 6 sequences and Biology 3 as required lower division courses • Minimum of 48 units of upper-division courses in the major • Outcome 1 is met successfully by completion of SIO 50, 120 and 152. • Outcome 2 is met by completion of SIO 100. • Outcome 3 is met by completion of SIO 100, SIO 105, 162, 182A and B. • Outcome 4 is met by completion of SIO 102, 103, 104, 160. • Each year students are asked to complete an exit survey. Our top students qualify for admission to the contiguous Master's program. Our students go into K-14 teaching, become laboratory assistants at SIO and elsewhere, pursue graduate degrees or get jobs at environmental consulting firms or in the petroleum industry.	• The Director and Associate Director of SIO Undergraduate majors oversee requirements which are endorsed by the faculty and have been approved by CEP. • The Director or Associate Director act on all requests/petitions for all variations of requirements. • SIO collects student feedback on all courses. This material is reviewed by the Director.	• Individual course instructors use feedback to modify their courses • The department periodically reviews the majors and restructures course requirements.	<i>The SIO major started in 2007.</i> <i>Program Reviewed 2012</i>

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Program: <i>Scripps Institution of Oceanography</i> Majors: <i>Marine Biology</i>	Yes	Students graduating with a degree in Marine Biology should be able to: 1) understand the diversity of marine organisms, their evolutionary history, biogeography, interactions with other organisms, and adaptations to their environments. 2) implement contemporary biological research techniques to conduct experiments, and use quantitative and/or statistical approaches to analyze the results and draw appropriate conclusions. 3) synthesize knowledge of physical and chemical processes of oceans and the biology of organisms to ask questions about natural history and ecology. 4) form hypotheses about marine-related scientific questions and understand how experiments are executed to test those hypotheses.	• Minimum of Math 10A-C, Physics 1A, 1AL-1C, 1CL Chemistry 6 sequence, Chemistry 7L and BILD1,2, 3 as required lower division courses. • Minimum of 49 units of upper-division courses in the major. • Outcome 1 is met successfully by completion of the Marine Biology Core courses (SIO 132, SIO 134, SIO 181) and through upper division course work in the restricted electives. • Outcome 2 is met by completion of the required lab course (SIO 136), completion of a rigorous statistics course (SIO 187) and through 2 additional required lab electives. • Outcome 3 is met by SIO119 or another choice from the Oceans, Physics and Chemistry Electives. • Outcome 4 is met by SIO 90 and SIO 139 for all students. Students are additionally encouraged (but not required) to participate in undergraduate research opportunities (SIO 199) that provide opportunities to design and execute experiments and collect data to test hypotheses.	• The Marine Biology Major Advisory Committee at Scripps oversees the Marine Biology curriculum, which is endorsed by the faculty and has been approved by CEP. This advisory committee includes the Scripps Department Chair, the Associate Director for Undergraduate Education and 5-6 faculty from the Scripps Department. • The Advisory Committee establishes learning objectives, identifies learning outcomes and oversees and reviews curriculum and requirements on a regular basis. • Individual faculty comment directly to the Advisory Committee with problems regarding prerequisites in preparing students for their courses, gaps in the curriculum, or excess overlap between courses. • The Scripps chair and Associate Director regularly review course, instructor and TA evaluations. This includes CAPE surveys and our unique on-line course and instructor evaluations for all SIO courses. • The Advisory Committee will regularly collect and review information from Marine Biology majors through the following student surveys: 1) Campus-wide surveys of current students, including the new Undergraduate Experience Survey (UCUES) to solicit	• The Advisory Committee reviews all assessment data and restructures curriculum as required. • Individual course instructors use CAPE and Scripps course evaluations as feedback to modify and improve their courses.	None. This is a new major.

		5) <i>effectively communicate in written and oral form, demonstrating the ability to create an appropriate annotated bibliography and the ability to use effective presentation skills.</i> 6) <i>have an appreciation for the impact of habitat perturbation on marine organisms, and subsequent ecosystem-level consequences and feedbacks.</i> 7) <i>have a sense of community responsibility and develop awareness of scientific issues in marine biology within the larger social context.</i> Learning outcomes published: http://sioundergrad.ucsd.edu/curriculum/curriculum_overview	• <i>Outcome 5 is met through SIO 136 and other upper division coursework.</i> • <i>Outcomes 7&8 are met throughout upper division core courses and electives.</i>	<i>current student views on their major.</i> 2) <i>An exit survey of all majors just before graduation (conducted by us) to solicit their overall experience in the major.</i> 3) <i>Follow-up alumni survey (conducted by Career Service Center) to gauge how well our students are prepared for careers and advanced degrees in the field.</i>		
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