

121. Marine Invertebrate Zoology (4)

Prerequisite: college zoology or permission of instructor; M Sci 103 recommended. A field-oriented introduction to the anatomy, embryology, systematics and evolution of the marine invertebrate groups; emphasis on field observation, identification and systematics. (2 lecture, 6 lab or field hours)

122. Marine Invertebrate Embryology (4) (Former M Sci 185T section)

Prerequisite: M Sci 121, cell biology or biochemistry strongly recommended, or permission of instructor. Survey of principles of developmental biology, concentrating on experimental evidence obtained using invertebrate material. Laboratory observations will cover the embryology of lower invertebrates, molluscs, crustacea, echinoderms, and protochordates. (2 lecture, 6 lab or field hours)

123. Marine Invertebrate Physiology (4) (Former M Sci 185T section)

Prerequisite: M Sci 121 and general physiology, or permission of instructor. Comparative physiology of the invertebrates; laboratory problems on nutrition, respiration, osmotic regulation, coordination, and other physiological functions. General principles of physiology discussed using examples from the invertebrate phyla. (2 lecture, 6 lab hours)

131. Marine Phycology (4)

Prerequisite: college botany; M Sci 103 recommended. The biology of marine algae with emphasis on identification, life histories, ecology, and systematics. (2 lecture, 6 lab or field hours)

132. Introduction to Marine Plankton (4) (Former M Sci 124)

Prerequisite: M Sci 101; M Sci 103 recommended. Identification, distribution and ecology of phytoplankton and zooplankton; introduction to sampling and analytical procedures. (2 lecture, 6 lab or field hours)

141. Geological Oceanography (3)

Prerequisite or concurrent: M Sci 101 and 102. Structures, physiography, and sediments of the sea bottom and shoreline. (2 lecture, 3 lab or field hours)

142. Marine Biogenic Sedimentation (3) (Former M Sci 137)

Prerequisite: M Sci 101 and college geology and biology, or permission of instructor. Interdisciplinary studies of the provenance, biologic and geologic composition of marine sediments and of the organisms contributing to their formation; sedimentary processes affecting these sediments. (2 lecture, 3 lab or field hours)

143. Coastal Geomorphology (3) (Former M Sci 135)

Prerequisite: physical geology or physical geography. A geologic history and formation of the shoreline. (2 lecture, 3 lab or field hours)

151. Marine Meteorology (3) (Former M Sci 135)

Prerequisite: M Sci 101. Introductory discussion of the interaction between ocean and atmosphere including exchange of heat, momentum and particles and their influence on waves and currents and on weather and climate. (2 lecture, 3 lab or field hours)

171. Oceanographic Summer Cruise (4)

Prerequisite: M Sci 101, 102, 103, 104. Oceanographic shipboard research in California coastal waters; preliminary selection of research topic, cruise logistics, shipboard instrumentation. Following one week cruise, samples analyzed and data interpretation presented as written reports. (1 lecture, 9 lab or field hours)

172. Marine Environmental Group Research (3) (Former M Sci 185T section)

Prerequisite: M Sci 101, 102, 103, 104. Student involvement in scientific investigations; employment of scientific methodology and principles; literature surveys and experience in writing and presenting research findings on specific projects. (1 lecture, 6 lab or field hours)

175T. Topics in Marine Sciences (1-6) (Former M Sci 185T section)

Topics in botany, zoology, chemistry, geography, geology, and other associated areas of the marine sciences; ichthyology, behavior of marine animals, chemical oceanography, physical oceanography, meteorology of the oceans.