

evolution in environmental relationships. (2 lecture, 3 lab or field hours)* (Former Biol 140)

140A-B. Genetics and Cellular Biology (3-4)

Prerequisite: BioSc 1A-B and Chem 8 or 128A; Chem 150 or 155 recommended. Two-semester sequence required of all biology majors. Fundamentals of inheritance and cellular biology for both prokaryotic and eukaryotic systems, including an introduction to the underlying molecular mechanisms. BioSc 140A is prerequisite to BioSc 140B. (A: 3 lecture hours; B: 3 lecture, 3 lab hours) (Former Biol 130; Biol 135)

180. Evolution (3)

Prerequisite: senior standing or permission of instructor; BioSc 130, 140A-B. Required of all biology majors. Evolutionary processes and patterns. Satisfies the senior major requirement for the B.S. in Biology. (Former Biol 125)

Botany (Bot)

10. Plant Biology (3)

Not open to students with credit in BioSc 1B. Structure, function, and development of plants. General Education BREADTH, Division 2. (2 lecture, 2 lab hours)

130. Plant Physiology (4)

Prerequisite: BioSc 1A-B; Chem 1A or 3A; or permission of instructor; organic chemistry recommended. General metabolism and related processes. (2 lecture, 6 lab hours) (Former Bot 104)

131. Vascular Plants (4)

Prerequisite: BioSc 1A-B or permission of instructor. Morphology, reproduction, and evolution of the major groups of vascular plants (both living and extinct). Emphasis placed upon the seed plants. (2 lecture, 6 lab hours) (Former Bot 136)

132. Nonvascular Plants (3)

Prerequisite: BioSc 1A-B or permission of instructor. Comparative structure and phylogeny of the fungi, algae, mosses, and liverworts. (2 lecture, 3 lab hours) (Former Bot 135)

133. Plant Anatomy (3)

Prerequisite: BioSc 1A-B or permission of instructor. Structure and development of flowering plants at the cellular and tissue levels. (2 lecture, 3 lab hours) (Former Bot 134)

137. Plant Growth and Development (3)

Prerequisite: BioSc 1A-B or permission of instructor. Processes involved in plant growth with emphasis on the develop-

ment of form in higher plants and the experimental approach. (2 lecture, 3 lab hours)

142. Algology (4)

Prerequisite: BioSc 1A-B or permission of instructor. Morphology, cytology, ecology, physiology, economic importance, and cultivation of the algae. (2 lecture, 6 lab or field hours)*

144. Plant Taxonomy (4)

Prerequisite: BioSc 1A-B or permission of instructor. Principles of plant classification; local flora. (1 lecture, 9 lab or field hours)* (Former Bot 106)

Ecology (Ecol)

135. Marine Biology (3)

Prerequisite: a college biology course. Introduction to the marine environment with emphasis on the biological aspects; systematics, ecology, and morphological and physiological adaptations of marine organisms, especially intertidal and shallow water forms; pollution; utilization of marine resources. (One field trip required) (Former Biol 155)

151. Terrestrial Ecology (4)

Prerequisite: BioSc 130. The interaction of organisms and communities with the physical and biotic environment, with emphasis on the biotic communities of Central California. (3 lecture, 3 lab or field hours)* (Former Bot 107)

152. Aquatic Ecology (4)

Prerequisite: BioSc 130. Physical-chemical features of inland waters as related to their biology; community structure and function, ecological interactions, adaptations, and identification of aquatic organisms. (2 lecture, 6 lab or field hours)* (Former Biol 133)

162. Microbial Ecology (4)

Prerequisite: BioSc 130 and Micro 140. Physiological ecology of microorganisms; interactions of microorganisms with abiotic and biotic factors in the environment; microbial habitats including soil, water, and organisms; techniques of microbial ecology (field and laboratory). (3 lecture, 3 lab hours)* (Former Micro 125)

171. Fisheries Biology and Management (3)

Prerequisite: BioSc 130; statistics strongly recommended. Ecology and management of fisheries; techniques for studying fish populations; quantitative methods for assessing fish stocks; environmental requirements and habitat improvement methods; acquisition and application of

information to obtain maximum benefit from fishery resources. Inland fisheries emphasized. (2 lecture, 3 lab or field hours)* (Former Zool 136)

172. Wildlife Biology and Management (4)

Prerequisite: BioSc 130. Ecological theory and its use in the management of wildlife resources. Field and laboratory exercises designed for the application of techniques used in research and in making management decisions. (2 lecture, 6 lab or field hours)* (Former Zool 134)

(See also *Bot, Micro, Zool courses.*)

Genetics (Genet)

120. Introduction to Genetics (3)

Not open to biology majors and students with credit in BioSc 140A. Prerequisite: BioSc 1A-B or equivalent. Principles of biological inheritance, including gene structure, gene function, statistical methods, problem solving, and human genetics. (Former Biol 120)

122. Fundamentals of Human Genetics (3)

Prerequisite: a college biology course. Intended primarily for students in the health fields or biology. Meiosis, mitosis, chromosomes, and genes. Mutations and familial diseases. Pedigrees, inbreeding, multiple genes, sex determination, blood group alleles, linkage and mapping, twins, cytogenetic and other diseases, genetic counseling. (Former Biol 122)

123. Heredity and Society (3)

Prerequisite: a college biology course. Principles of genetics and evolution as they apply to human society, thought, experience, and affairs. Ethical, social, political, and medical problems in relation to genetic engineering and other techniques. (Former Biol 107)

171. Experimental Molecular Genetics (4)

Prerequisite: BioSc 140A-B. The nature of genetic information, its mutation, transfer, and recombination in cells. (2 lecture, 6 lab hours) (Former Micro 189)

172. Developmental Biology (3)

Prerequisite: BioSc 140A-B. Investigations concerning the variety of mechanisms acting during the several stages of development of the living organism, from gamete formation to morphological and bio-

* Late afternoon, Saturday and/or overnight field trips may be required.