

Anthropology. Topics of current analytical and methodological importance in cultural ecology. Examination of general issues in cultural ecology through study of human response to and influences on climate. (Same course as Anthropology 211.) Offered in alternate years. —F. McElreath

212A. Environmental Policy Process (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course in public policy (e.g., Environmental Studies 160) or environmental law (e.g., Environmental Studies 161); course in bureaucratic theory (e.g., Political Science 187 or Environmental Studies 166); course in statistics (e.g., Sociology 106 or Agricultural and Resource Economics 106). Introduction to selected topics in the policy process, applications to the field of environmental policy. Develops critical reading skills, understanding of frameworks of the policy process and political behavior, and an ability to apply multiple frameworks to the same phenomena. (Same course as Environmental Science and Policy 212A.) Offered in alternate years. —(F, S.) Lubell

212B. Environmental Policy Evaluation (4)

Lecture—1 hour; discussion—1 hour; seminar—2 hours. Prerequisite: intermediate microeconomics (e.g., Economics 100); Statistics 108 or Agricultural and Resource Economics 106; policy analysis (e.g., Environmental Studies 168A or the equivalent); Agricultural and Resource Economics 176. Methods and practices of policy analysis; philosophical and intellectual bases of policy analysis and the political role of policy analysis. (Same course as Environmental Science and Policy 212B.) Offered in alternate years. —(W, S.) Springborn

213. Population, Environment, and Social Structure (4)

Seminar—3 hours; term paper. Prerequisite: at least one course in population or human ecology, or in environment and resources. Relationships among population dynamics, resource scarcity and environmental problems, and social structure; focus on demographic content of global ecological models and simulations, ecological content of modern demographic theories, and debates about scarcity, inequality, and social conflict and change. Offered in alternate years. —S.

214. Marine Ecology: Concepts and Practice (3)

Lecture—1 hour; discussion—1.5 hours; fieldwork—1.5 hours. Prerequisite: graduate standing or one course in ecology, one course in evolution or genetics, and consent of instructor; survey course in marine ecology recommended. Critical review and analysis of concepts and practices in modern marine ecology at the interface of several fields of study including oceanography, evolution, behavior, and physiology. Emphasis on critical thinking, problem solving, and hands-on study. Two field trips required. —F, S. (F, S.) Morgan, Williams

216. Ecology and Agriculture (4)

Lecture—3 hours; term paper. Prerequisite: Evolution and Ecology 11 or consent of instructor. Ecological principles as relevant to agriculture. Integration of ecological approaches into agricultural research to increase ecosystem functions and services. Topics include crop autoecology, biotic interactions among crops and pests, ecosystem and landscape ecology. Not open for credit to students who have completed Vegetable Crops 216 (Former course Vegetable Crops 216). Offered in alternate years. —F. Jackson

219. Ecosystem Biogeochemistry (4)

Lecture—3 hours; laboratory/discussion—2 hours. Prerequisite: introductory courses in ecology/biology and soils are recommended; undergraduates accepted with consent of instructor. Multi-disciplinary analysis of energy and nutrient transfers within terrestrial ecosystems. Examination of processes and inter- and intra-system interactions between the atmosphere, biosphere, lithosphere, and hydrosphere. Laboratory section uses biogeochemical simulation models to examine case studies. (Same course as Soil Science 219.) Offered in alternate years. —S. Houlton

225. Terrestrial Field Ecology (4)

Seminar—1 hour; field work—12 hours. Prerequisite: introductory ecology and introductory statistics or consent of instructor. A field course conducted over spring break and four weekends at Bodega Bay, emphasizing student projects. Ecological hypothesis testing, data gathering, analysis, and written and oral presentation of results will be stressed. (Same course as Entomology 225/Population Biology 225.) —S. Karban

231. Mathematical Methods in Population Biology (3)

Lecture—3 hours. Prerequisite: Mathematics 16C or 21C or the equivalent. Mathematical methods used in population biology. Linear and nonlinear difference equation and differential equation models are studied, using stability analysis and qualitative methods. Partial differential equation models are introduced. Applications to population biology models are stressed. (Same course as Population Biology 231.) —F. Hastings

232. Theoretical Ecology (3)

Lecture—3 hours. Prerequisite: course 204 or the equivalent, and Mathematics 16C or 21C; or one of courses 100 or 121 or Evolution and Ecology 101, and a strong mathematics background (Mathematics 22A-22B-22C or the equivalent). Examination of major conceptual and methodological issues in theoretical ecology. Model formulation and development will be emphasized. Topics will vary from year to year. May be repeated for credit. Offered in alternate years. —(W.) Hastings

233. Computational Methods in Population Biology (3)

Lecture/laboratory—2 hours; discussion/laboratory—1 hour. Prerequisite: A course in theoretical ecology (e.g., course 231 or an equivalent to Environmental Science and Policy 121 from your undergraduate institution) or consent of instructor; no programming experience required. Numerical methods for simulating population dynamics using the computational software package R. Emphasis placed on model formulation and development, theoretical concepts and philosophical principles to guide simulation efforts, model parameterization, and implementing simulations with R. (Same course as Population Biology 233.) Offered in alternate years. (S/U grading only.) —W. Baskett, Schreiber

242. Ecological Genetics: Applied Genetics for Ecology, Health, and Conservation of Natural Populations (3)

Lecture—2 hours; discussion—0.5 hours; laboratory—0.5 hours. Prerequisite: undergraduate genetics and ecology/conservation biology courses recommended. Class size limited to 20 students; graduate students, 2nd or 3rd year veterinary students; advanced undergraduate students with consent of instructor. Introduction to the field of applied ecological genetics to include applications in conservation ecology, population genetics, population biology, wildlife health and disease ecology. (Same course as Population Health and Reproduction 242.) —F. (F.)

242. Ecological Genetics: Applied Genetics for Ecology, Health, and Conservation of Natural Populations (3)

Lecture—2 hours; discussion—0.5 hours; laboratory—0.5 hours. Prerequisite: undergraduate genetics and ecology/conservation biology courses recommended. Class size limited to 20 students; graduate students, 2nd or 3rd year veterinary students; advanced undergraduate students with consent of instructor. Introduction to the field of applied ecological genetics to include applications in conservation ecology, population genetics, population biology, wildlife health and disease ecology. (Same course as Population Health and Reproduction 242.) —W. (W.) Ernest

243. Ecological Genomics (4)

Lecture/discussion—3 hours; term paper or discussion. Prerequisite: course 242, or equivalent training in ecology and genetics according to the discretion of the instructors. Genomics concepts, technologies,

and analyses for ecology research. Mixture of lecture, discussion of recent literature, hands-on training in data analysis and experimental design, and research proposal preparation and evaluation. One all-day field trip is required. —W. (W.) Miller, Ross-Ibarra, Whitehead

245. Climate Change, Water and Society (4)

Lecture—4 hours. Class size limited to 25 students. Integration of climate science and hydrology with policy to understand hydroclimatology and its impact upon natural and human systems. Assignments: readings, take-home examination on climate and hydrologic science, paper that integrates course concepts into a research prospectus or review article. (Same course as Hydrologic Science 245 and Atmospheric Science 245.) —F. (F.) Fogg, Lubell, Ullrich

262. Advanced Population Dynamics (3)

Lecture—3 hours. Prerequisite: graduate standing; advanced course in ecology (e.g., Evolution and Ecology 101), population dynamics (e.g., Wildlife, Fish, and Conservation 122), and one year of calculus; familiarity with matrix algebra and partial differential equations recommended. Logical basis for population models, evaluation of simple ecological models, current population models with age, size, and stage structure, theoretical basis for management and exemplary case histories. Emphasis on development and use of realistic population models in ecological research. (Same course as Wildlife, Fish, and Conservation Biology 262.) Offered irregularly. —W. (W.) Botsford

271. Research Conference in Ecology (1)

Seminar—1 hour. Prerequisite: consent of instructor. Critical presentation and evaluation of current literature and ongoing research in ecology. Requirements include active participation in weekly discussions and the presentation of a paper or chapter once per quarter. May be repeated for credit. (Same course as Population Biology 271.) (S/U grading only.) —F, W, S. (F, W, S.) Schoener, Schreiber

280. Current Anthropology Journal Editorial Workshop (4)

Workshop—1 hour; independent study—3 hours. Prerequisite: consent of instructor. Students must enroll for all three quarters. Reading and offering workshop critiques of manuscripts submitted for publication, and reading and discussion of other relevant work in anthropology and human ecology. Track and edit published comments and authors' replies that accompany major features. Participation in the development of new sections for the electronic edition of the journal, including a "news and views" section and a debate section. (Same course as Anthropology 280.) May be repeated for 12 units of credit with consent of instructor. (S/U grading only.) —F, W, S. (F, W, S.)

290. Seminar in Ecology (1-4)

Seminar—1-4 hours. Prerequisite: consent of instructor. Topics in ecology. Students are expected to present an oral seminar on a particular aspect of the general topic under consideration. (S/U grading only.) —F, W, S. (F, W, S.)

296. Topics in Ecology and Evolution (1)

Seminar—1 hour. Prerequisite: graduate standing. Seminars presented by visiting lecturers, UC Davis faculty, and graduate students. May be repeated for credit. (Same course as Population Biology 292.) (S/U grading only.) —F, W, S. (F, W, S.)

297T. Tutoring in Ecology (1-4)

Lecture—1 hour; discussion—1 hour. Prerequisite: graduate standing in ecology; consent of instructor. Teaching ecology including conducting discussion groups for regular departmental courses under direct guidance of staff. May be repeated for credit. (S/U grading only.)

298. Group Study (1-5)

(S/U grading only.)

299. Research (1-12)

Prerequisite: graduate standing. (S/U grading only.)