Viticulture and Enology (A Graduate Program)

Andrew L. Waterhouse, Ph.D., Chairperson of the Group

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Faculty

Douglas O. Adams, Ph.D., Professor
(Viticulture and Enology)

Charles W. Bamforth, Ph.D., Professor
(Food Science and Technology)

Linda F. Bisson, Ph.D., Professor
(Viticulture and Enology)

David E. Block, Ph.D., Professor
(Viticulture and Enology, Chemical Engineering)

Academic Senate Distinguished Teaching Award
Roger B. Boulton, Ph.D., Professor
(Viticulture and Enology, Chemical Engineering)

Dario Cantí, Ph.D., Associate Professor
(Viticulture and Enology)

Susan E. Ebeler, Ph.D., Professor
(Viticulture and Enology)

Jean-Xavier Guiraud, Ph.D., Professor
(Viticulture and Enology)

Hildegarde Heymann, Ph.D., Professor
(Viticulture and Enology)

Maria Marco, Ph.D., Associate Professor
(Food Science and Technology)

Mark A. Matthews, Ph.D., Professor
(Viticulture and Enology)

David A. Mills, Ph.D., Professor
(Viticulture and Enology, Food Science and Technology)

Kenneth A. Shackel, Ph.D., Professor (Plant Sciences)

David R. Smart, Ph.D., Professor
(Viticulture and Enology)

Li Tian, Ph.D., Associate Professor (Plant Sciences)

M. Andrew Walker, Ph.D., Professor
(Viticulture and Enology)

Andrew L. Waterhouse, Ph.D., Professor
(Viticulture and Enology)

Larry E. Williams, Ph.D., Professor
(Viticulture and Enology)

Affiliated Faculty

Matthew W. Fidelibus, Ph.D., Associate Specialist in Cooperative Extension (Viticulture and Enology)

W. Douglas, Guldner, Ph.D., Specialist in Cooperative Extension (Plant Pathology)

Andrew J. McElrone, Ph.D., Assistant Adjunct Professor (Viticulture and Enology)

Jean-Jacques Lambert, Ph.D., Assistant Research Soil Scientist (Viticulture & Enology)

Anita Oberholster, Ph.D., Assistant Specialist in Cooperative Extension (Viticulture and Enology)

Keri L. Steenwerth, Ph.D., Assistant Adjunct Professor (Viticulture and Enology)

Graduate Study. The M.S. program offers advanced studies in viticulture and enology, ranging from the genetics, physiology and biochemistry of grapevines to the chemistry, microbiology and sensory characteristics of wines and the chemical engineering of winemaking. Applications must be submitted online by January 15.

Ph.D. studies are not offered by the Graduate Program in Viticulture and Enology.

Preparation. Applicants to the program are required to have a level of competence equivalent to that of a strong science undergraduate program. This includes coursework in biology, general chemistry, organic chemistry, calculus, statistics (analysis of variance), biochemistry, microbiology, and economics.

Specific requirements are outlined in detail and may be obtained by visiting http://vengg.ucdavis.edu.

Graduate Advisers. L.F. Bisson, D. Cantí

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Fall 2011 and on Revised General Education (GE) Path. Arts and Humanities: AH—Arts and Humanities; SE—Science and Engineering; SS—Social Sciences; OL—Oral Skills; QL—Quantitative; VL—Visual; WC—World Cultures; WE—Writing Experience

Pre-Fall 2011 General Education (GE): ArtsHum—Arts and Humanities; SciEng—Science and Engineering; SocSci—Social Sciences; Div—Diverse Domains; Wr—Writing Experience

Quarter Offered: F—Fall; W—Winter; S—Spring; Su—Summer; 2017/2018 offering in parentheses
The Program
The major emphasizes broad training in biological sciences, with specialization in one of four areas. The major is designed primarily for students interested in becoming professionals in the diverse fields of wildlife, fish, and conservation biology, including veterinary and wildlife health sciences. The breadth of course requirements, when combined with electives, also make this an excellent preparatory major for secondary school teaching. Certification by professional societies such as The Wildlife Society, American Fisheries Society, or the Ecological Society of America, or preparation for graduate studies may also be achieved through careful planning by each faculty advisor.

Career Alternatives
The major prepares students to excel in the dynamic fields of environmental and conservation biology, emphasizing vertebrate animals—both native and invasive—in their natural environments, as well as resolution of conflicts between humans and wild animals. Positions now held by graduates of this major include wildlife biologist, fisheries biologist, wildlife damage management, and resource biologists and managers with local, state, and federal agencies, biologists or consultants with private industries such as environmental consulting firms, commercial fishing businesses, electrical utilities, sporting clubs or businesses, and one aquaculture operations, as well as veterinarians, medical physicians, and professors/researchers who teach and/or conduct research in academic institutions.

B.S. Major Requirements:

Written/oral expression

University Writing Program 1-11 4
Communication 1, 3 or 4 3
Art 10 3

Preparatory subject matter

Biological Sciences 2A, 2B, 2C 15
Chemistry 2A, 2B, 8A, 8B 16
Mathematics 16A, 16B 6
Physics 1A, 1B, 1C 6
Statistics 100, 102, or Plant Sciences 120 4
Wildlife, Fish, and Conservation Biology 10, 11, or 50 4
Individualized courses 3-4

Depth subject matter

Students graduating with this major are required to attain at least a C average (2.000) in all courses taken at the university in depth and area of specialization subject matter.

Enrollment Science and Policy 100 or Evolution and Ecology 101 4
Evolution and Ecology 101 4
Biological Sciences 101 4

Wildlife, Fish, and Conservation Biology 121 or 130 4
Neurobiology, Physiology, and Behavior 109 or Wildlife, Fish, and Conservation Biology 141 4
Wildlife, Fish, and Conservation Biology 122 4
Wildlife, Fish, and Conservation Biology 154 4
Choose three lecture courses and two (laboratory) courses from: Wildlife, Fish, and Conservation Biology 110, 111, (111L), 120, 120L, or 134, 134L 14-15
Wildlife, Fish, and Conservation Biology 100, or 101L, or 102 & 102L 4

Strongly recommended, but not required, Statistics 104, 106, or 108 4
Strongly recommended, but not required, Landscape Architecture 130 3
Strongly recommended, but not required, Anatomy, Physiology and Cell Biology 100 4

Restricted electives

Choose one from the following four areas of specialization shown below. No course can be used to simultaneously satisfy the requirements of the major.

Areas of specialization

(1) Wildlife and Conservation Biology:
- Complete Wildlife, Fish, and Conservation Biology 151
- Choose one course from: Plant Sciences 102, 131, 144, 147 & 147L, 178, Plant Biology 102, 108, 117
- Choose one course from: Wildlife, Fish, and Conservation Biology 110, 111, 120, 134, 136, 141, 144, 152, 155 & 155L, 156, 157 or 160
- Note: Students interested in certification as a Wildlife Biologist from The Wildlife Society should consider additional courses in plant sciences.

(2) Fish Biology:
- Complete Wildlife, Fish, and Conservation Biology 120 & 120L
- Choose one course from: Entomology 116, Evolution and Ecology 112 or 112L or 114
- Choose three courses including at least one course from each of the following two groups:
  - (a) Aquatic Systems
  - (b) Water Policy/Science
    - Choose one course from: Hydrology 150, Environmental Science and Policy 161, 162, 166N or 169.

(3) Wildlife Health:
- Complete Wildlife, Fish, and Conservation Biology 100, 110, 111, 120, 123, 134, 136, 141, 144, 152, 155 & 155L or 160.

Note: Students interested in certification as a Wildlife Biologist from The Wildlife Society should consider additional courses in plant sciences.

Minor Program Requirements:

The minor in Wildlife, Fish, and Conservation Biology is designed for students interested in basic training and understanding of the ecology and conservation of wild terrestrial and aquatic vertebrates, emphasizing birds, mammals, amphibians, reptiles, and fish, with relevance and application to all life forms.

Minor Adviser: N.A. Fangue

Graduate study in Wildlife, Fish, and Conservation Biology are active members of several graduate programs, including the Ecology, Population Biology, Genetics, Animal Behavior, and Avian Science graduate groups. Students interested in graduate studies should see Graduate Studies, on page 120.

Courses in Wildlife, Fish, and Conservation Biology (WFC)

Lower Division

10. Wildlife Ecology and Conservation (4)
- Lecture—3 hours; discussion—1 hour. Introduction to the ecology and conservation of vertebrates. Complexity and severity of world problems in conserving, managing, and understanding of the ecology and conservation of species and habitats for students with no background in biological sciences. Offered in alternate years. GE credit: SciEng, Div, Wrt|SE, SL, WE, — S, F, (F., S.) Fangue, Kelt

11. Introduction to Conservation Biology (3)
- Lecture—3 hours. Introduction to conservation biology and the ecological basis of controversies surrounding loss of species and habitats for students with no background in biological sciences. Offered in alternate years. GE credit: SciEng, Wrt|SE, SL, WE, — W (W.)

50. Natural History of California's Wildlife Vertebrates (3)
- Lecture—2 hours; discussion—1 hour. Examination of the natural history of California's wild vertebrates (fish, amphibians, reptiles, and mammals), including their biogeography, systems, ecology and conservation status. GE credit: SciEng, Wrt|SE, SL, WE, — W (W.)

51. Introduction to Conservation Biology (3)
- Lecture—3 hours. Introduction to conservation biology including both biological and social issues related to the loss of species and habitats. Intended for students with no background in biological sciences. GE credit: SciEng, Wrt|SE, SL, — S (S., C.) Caro
101L. Laboratory in Biology and Conservation of Fishes (3)
Lecture—3 hours; laboratory—3 hours. Prerequisite: course 120 (may be taken concurrently) and consent of instructor. Limited enrollment. Field exercises in wild vertebrates in terrestrial environments; testing ecological hypotheses through field research, application of research methodology, supervised independent research projects. Held between Labor Day and fall quarter. Offered in alternate years. GE credit: SciEng | SE — F. (F.) Eadie, Kelt, Todd, Van Vuren

102L. Field Studies in Fish Biology: Laboratory (6)
Fieldwork—15 hours; laboratory—12 hours; discussion/lab—3 hours. Prerequisite: course 102 (may be taken concurrently) and consent of instructor. Field investigations of fish biology are emphasized including taxonomic capture methods and individual research projects on ecology, behavior, physiology or population biology of fishes. Offered irregularly. — S. (S.)

110L. Laboratory in Biology and Conservation of Wild Mammals (3)
Lecture—3 hours. Prerequisite: Biological Sciences 2A/2C, Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent course, can be taken concurrently. Origins, evolution, diversification, and geographical and ecological distributions of mammals, physiological, reproductive, and behavioral adaptations of mammals to their environment. — S. (S.) Kelt

110L. Laboratory in Biology and Conservation of Wild Mammals (3)
Lecture—2 hours; laboratory—6 hours. Prerequisite: course 110 (can be concurrent) and consent of instructor. Limited enrollment. Laboratory exercises in the morphology, systematics, species identification, anatomy, and adaptations of wild mammals to different habitats. — S. (S.) Kelt

111. Biology and Conservation of Wild Birds (3)
Lecture—3 hours. Prerequisite: Biological Sciences 2A/2C, upper division ecology course recommended. Phylogenetic distribution, migration, reproduction, population dynamics, behavior and physiological ecology of wild birds. Emphasis on adaptations to environments, species interactions, management, and conservation. GE credit: SciEng | SE — F. (F.) Eadie

111L. Laboratory in Biology and Conservation of Wild Birds (3)
Lecture—6 hours; laboratory—3 hours. Prerequisite: course 111, or consent of instructor. Limited enrollment. Laboratory exercises in bird species identification, anatomy, molts, age and sex, specialized adaptations, behavior, research, with emphasis on California species. Several weekend field trips, after class bird walks, and independent bird study are required. — F. (F.) Eadie

120. Biology and Conservation of Fishes (3)
Lecture—3 hours. Prerequisite: Biological Sciences 110L. Physiology of Fishes (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: upper division courses in nutrition and physiology or consent of instructor. Comparative physiology, growth, reproduction, behavior, and energy relations of fishes. Offered irregularly. GE credit: SciEng | Wrt | SE, WE

122. Population Dynamics and Estimation (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: Mathematics 16A-16B, Statistics 13 or the equivalent; upper division course in ecology. Description of bird, mammal and fish population dynamics, modeling philosophy, techniques for estimation of animal abundance and demography (e.g., mark-recapture, capture-recapture, chain, markinglevel, ratio, etc.), mathematical models of populations (e.g., Leslie matrix, logistic, dynamic pool, stock-recruitment, etc). Offered irregularly. GE credit: SciEng | Wrt | SE, WE

130. Physiological Ecology of Wildlife (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent course. Principles of physiological ecology, emphasis on vertebrates. Ecological, evolutionary, and behavioral perspectives on physiological mechanisms used by animals to adapt to their environment, including consideration of climate change and other threats to biodiversity. Tropical, temperate, and polar ecosystems are highlighted. GE credit: SciEng | SE — W. (W.) Fangue

134. Herpetology (3)
Lecture—2 hours; term paper. Prerequisite: Biological Sciences 2A/2C, Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent upper division course recommended. Evolution and ecology of reptiles, their anatomy, physiology, behavior, and amphibians. Emphasis on adaptations to environments, species interactions, management, and conservation. Offered in alternate years. — W. Todd

134L. Herpetology Laboratory (3)
Lecture—6 hours; laboratory—6 hours. Prerequisite: Biological Sciences 2A/2C, Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent upper division course recommended; course 134 concurrently; consent of instructor. Diagnostic characteristics and functions of amphibians and reptiles, emphasizing ecological, biogeographic and phylogenetic patterns. Field experience with common species of reptiles and amphibians in the Davis Area. Offered in alternate years. — W. Todd

136. Ecology of Waterfowl and Game Birds (4)
Lecture—3 hours; laboratory—3 hours; fieldwork—1 hour. Prerequisite: course 111 or the equivalent, or consent of instructor. Detailed examination of distribution, behavior, population dynamics, and management of waterfowl and upland game birds. Offered in alternate years. — F. (F.) Caro

141. Behavioral Ecology (4)
Lecture—3 hours; film viewing—1 hour. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent course. Basic theory and methodology underlying the functional and evolutionary significance of behavior, and the role of ecological constraints. Supporting empirical evidence taken mainly from studies of wild vertebrates. Offered in alternate years. GE credit: SciEng | SE — (F.)

144. Marine Conservation Science (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course in introductory ecology. Class size limited to 30 students. Key differences between marine and terrestrial ecosystems, major stressors of marine ecosystems (e.g., fisheries, pollution, bioinvasions, climate change and habitat destruction) and their consequences. Laws and agencies responsible for addressing problems, and the policies used. Offered in alternate years. — F. (F.) Botsford

150. Urban Wildlife Ecology (3)
Lecture—3 hours. Prerequisite: Biological Sciences 102A, 2B, 2C or equivalent. Introduction to the behavior, ecology, and conservation of wild animals in urban environments. Effects of urbanization on disease, fitness, and dynamics of animal populations. Conservation and conflict management efforts in urban settings. Offered in alternate years. — W.

151. Wildlife Ecology (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: Biological Sciences 102A, 2B, 2C or equivalent. Ecological approaches to managing wild vertebrates that come into conflict with agriculture, public health, or the conservation of biodiversity. Offered in alternate years. — W. Van Vuren

153. Wildlife Ecotoxicology (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: introductory courses in organic chemistry, ecology, and physiology, or consent of instructor; Environmental Toxicology 101 recommended. Various forms of environmental pollution in relation to fish and wildlife, the effects and mechanisms of pollutants, effects on individuals and systems, laboratory and field ecotoxicology, examples/case histories, philosophical/methodological considerations. Offered irregularly. GE credit: SciEng | Wrt | SE, WE

154. Conservation Biology (4)
Lecture—3 hours; term paper. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent. Introduction to conservation biology and background to the biological issues and controversies surrounding loss of species and habitats. Review of species' recovery plan. GE credit: SciEng | SE, WE — F. (F.) Todd

155. Habitat Conservation and Restoration (3)
Lecture—3 hours. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent course, course 154 and Environmental Horticulture 160 recommended. Analysis of the Fall 2011 and on Revised General Education (GE) Arts and Humanities; SciEng—Science and Engineering; SocSci—Social Sciences; Div—Diverse; W—Writing Experience
characteristics of wildlife and fish habitats, the conservation of habitats, and restoration. GE credit: SciEng, Wrt|SE, VL, WE.

155L. Habitat Conservation and Restoration Laboratory (2)
Fieldwork—3 hours; laboratory—3 hours. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent course. Course 155L (may be taken concurrently). Analysis of the characteristics of wildlife and fish habitats, application of restoration methods, and evaluation of conservation and restoration projects in the field. Students will also participate during the term in a restoration project. —W. [W]

156. Plant Geography (4)
Lecture—3 hours; laboratory—3 hours; term paper. Field trips will be substituted for some in-laboratory activities. Prerequisite: Environmental Science and Policy 100 or Evolution and Ecology 101; Plant Biology 102 or 108 strongly recommended. Survey of the geographical distribution of vegetation on land, wildlife habitats, with consideration of the environmental and historical factors that determine these patterns. Conservation and management approaches. Analytical field and lab techniques introduced. Offered irregularly. GE credit: SciEng, Wrt|SE, VL, WE.

157. Coastal Ecosystems (4)
Lecture—3 hours; laboratory—3 hours; fieldwork—3 hours. Prerequisite: Environmental Studies 100 or Evolution and Ecology 101; course work in organic biology, physical geography, and geology recommended. Overview of coastal ecosystems, physical and biological elements and processes, and coastal zone dynamics, including sandy, rocky and muddy shorelines, estuaries, dunes and coastal watersheds. Discussion of the role of historical factors and conservation, restoration, and management approaches. Offered irregularly. GE credit: SciEng | SE, VL.

158. Infectious Disease in Ecology and Conservation (3)
Lecture—3 hours. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or Veterinary Medicine 409 or the equivalent. Introduction to the dynamics and control of infectious disease in wildlife, including zoonotic diseases and those threatening endangered species. Basic epidemiological models and their applications. Role of scientists in developing disease control policies. Offered irregularly.

160. Animal Coloration (3)
Lecture—1.5 hours; discussion—1.5 hours. Prerequisite: Biological Sciences 2A, 2B, 2C. Evolutionary and ecological significance of coloration in mammals, birds, reptiles, amphibians, fish, cephalopods, crustaceans, spiders, insects, humans as well as color in fashion, plants and the military. Topics include history, protective coloration, warning coloration, mimicry, sexual dichromatism and color change. Offered in alternate years. —W. [W] Caro

190. Departmental Research Seminar (1)
Seminar—1 hour. Prerequisite: upper division standing in the biological sciences. Reports and discussions of recent advances related to wildlife and fisheries biology. May be repeated for credit up to 3 times. (P/NP grading only.)—F, W, S. [F, W, S.]

191. Museum Science (2)
Lecture—1 hour; laboratory—3 hours. Prerequisite: upper division standing and consent of instructor. Prizes and exhibits to be preserved and present biological specimens for research, teaching collections, and museums. (P/NP grading only.) Offered in alternate years. —W. [W] Englis

192. Internship (1–12)
Internship—3–36 hours. Prerequisite: completion of 84 units and consent of instructor. Work experience off and on campus in all subject areas offered in the department. Internships supervised by a member of the faculty. (P/NP grading only.)—F, W, S. [F, W, S.]

195. Field and Laboratory Research (3)
Laboratory—4 hours; discussion—1 hour. Prerequisite: course 191L, 111L, or 120L, 121 or 130; Evolution and Ecology 101 or equivalent; and consent of instructor. Critique and practice of research methods applied to field and/or laboratory environments of wild vertebrates. Students work independently or in small groups to design and complete research projects. May be repeated twice for credit. GE credit: SciEng | SE, VL, WE, W. [F, W, S.]

1977. Tutoring in Wildlife and Fisheries (1-5)
Lecture—3 hours; laboratory—3 hours; term paper. Prerequisite: major in Wildlife, Fish, and Conservation Biology and consent of instructor. Experience in teaching under guidance of a faculty member. (P/NP grading only.)—F, W, S. [F, W, S.]

1978. Directed Group Study (1-5)
(P/NP grading only.)—F, W, S. [F, W, S.]

199. Special Study for Advanced Undergraduates (1-5)
(P/NP grading only.)—F, W, S. [F, W, S.]

Graduate

223. Conservation Biology and Animal Behavior (3)
Lecture—1.5 hours; discussion—1.5 hours. Prerequisite: Ecology 208 or Animal Behavior 221. Influences of concepts of animal behavior (functional, evolutionary, developmental, mechanistic, and methodological) on conservation biology theory and practice. Offered in alternate years. (S.)—Caro

230. Advanced Physiological Ecology of Wildlife (4)
Lecture—3 hours; discussion—1 hour. Advanced principles of physiological ecology. Ecological, evolutionary and behavioral perspectives on physiological mechanisms used by animals to adapt to their environment in the context of climate change and other threats to biodiversity. Primary literature will form the basis of discussion. —W. [W] Fangue

223. Conservation Biology and Animal Behavior (3)
Lecture—1.5 hours; discussion—1.5 hours. Prerequisite: Ecology 208 or Animal Behavior 221; consent of instructor. Influences of concepts of animal behavior. (functional, evolutionary, developmental, mechanistic, and methodological issues) on conservation biology theory and practice. Offered in alternate years. (S.)—Caro

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., course 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 Ecology 262.) Offered irregularly. —W. [W] Caro

290. Seminar (1-3)
Seminar—1 hour. Prerequisite: upper division standing and consent of instructor. Special topic selected for a quarter will vary depending on interests of instructor and students. (S/U grading only.)—F, W, S. [F, W, S.]

290C. Research Group Conference (1)
Discussion—1 hour. Prerequisite: consent of instructor. Weekly conference on research problems, progress and techniques in wildlife and fishery sciences. May be repeated for credit. (S/U grading only.)—F, W, S. [F, W, S.]

291. Seminar in Aquatic Ecology (2)
Seminar—2 hours. Prerequisite: graduate standing in biology. Presentation and analysis of assigned topics in aquatic ecology, emphasizing fish, fisheries and aquatic conservation. Offered in alternate years. (S/U grading only.)—S. [S.]

292. Physiology of Fishes Seminar (1)
Seminar—1 hour. Prerequisite: graduate standing and at least two courses in physiology; consent of instructor. Seminar devoted to current topics concerning the physiological functioning of fishes. May be repeated two times for credit. Offered irregularly. (S/U grading only.)—F. [F.]

294. Behavioral Ecology of Predators and Prey (3)
Seminar—2 hours. Prerequisite: graduate standing. Presentation and analysis of research papers on social and foraging behavior of predatory animals, antipredator strategies of prey species, co-evolution of predators and prey, and ecology of predator prey interactions. May be repeated twice for credit. (Some courses vary each offering. Offered irregularly. (S/U grading only.)—F, W, S.]

295. Seminar in Wildlife Ecotoxicology (3)
Seminar—2 hours; term paper. Prerequisite: graduate standing in biology. Presentation and analysis of assigned and researched research papers on transport, exposure, and effects of environmental contaminants on wildlife-associated ecosystem components, especially at individual/population levels. Specific subjects vary each offering. Offered irregularly. (S/U grading only.)

297T. Tutoring in Wildlife and Fisheries (1–5)
Tutorial—3–9 hours. Prerequisite: meet qualifications for teaching assistant; graduate standing; and consent of instructor. Tutoring and teaching students in undergraduate courses in Wildlife, Fish, and Conservation Biology. Weekly conferences with instructor; evaluations of teaching; preparing for and conducting demonstrations, laboratories, and discussions; preparing and grading examinations. May be repeated for a total of 6 units when a different course is tutored. (S/U grading only.)—F, W, S. [F, W, S.]

298. Group Study (1-5)
F, W, S. [F, W, S.]

299. Research (1-12)
(S/U grading only.)—F, W, S. [F, W, S.]

Students transferring to UC Davis from another institution or new students declaring the major of Wildlife, Fish, and Conservation Biology must consult the Master Adviser so that their program can be evaluated and a faculty adviser assigned. Contact the Department in 1086 Academic Surge Building or telephone 530-754-9796.

Wine Production

Food Science and Technology, on page 340; Microbiology and Molecular Genetics, on page 455; and Viticulture and Enology, on page 584.

Women and Gender Studies

See Gender, Sexuality and Women’s Studies, on page 348.

Zoology

See Evolution and Ecology, on page 335.