224. Advances in the Science of Winemaking (3)
Lecture—2 hours. Prerequisite: course 125, 126 and graduate standing or consent of instructor. Selected topics in the science and technology of winemaking. Topics drawn from current research of participating faculty. Critical analysis of the technical content of published material.—III. (III.)

225. Advanced Sensory Analysis of Wines (3)
Lecture/discussion—2 hours; laboratory—4 hours. Prerequisite: courses 124 and 125 (or Food Science and Technology 107) and Agricultural Management and Rangeland Resources 120 or the equivalent. Sensory descriptive analysis experiments will be designed and conducted using standard sensory science methods. Data will be analyzed by analyses of variance, principal component analyses and generalized Procrustes analysis to evaluate the judge’s performance and interpret the significance of the results.—III. Heymann

235. Winery Design (4)
Lecture—2 hours; discussion—1 hour; independent research—1 hour. Prerequisite: consent of instructor. Design of wineries. Includes process calculations, equipment selection, process layout and building choice and siting. Project scheduling, capital costs, and ten-year cash flow analysis for the winery. One field trip required. Offered in alternate years.—II. Boulton

270. Critical Evaluation of Scientific Literature (2)
Discussion—2 hours. Prerequisite: consent of instructor. Contemporary research topics in biological sciences. Discussion of recent research articles in a special topic area. Intended to develop skills in critical evaluation of scientific publications. May be repeated for credit. (S/U grading only)—II, III, III. (II, III, III) Bisson

290. Seminar (1)
Seminar—1 hour. Prerequisite: consent of instructor. (S/U grading only.)—II, III, III.

290C. Advanced Research Conference (1)
Discussion—1 hour. Prerequisite: graduate standing and consent of instructor. Planning and results of research programs, proposals, and experiments. Discussion and critical evaluation of original research being conducted by the group. Discussion led by individual research instructors for research group. May be repeated for credit. (S/U grading only)—I, II, III. (I, II, III)

291. Advanced Viticulture (2)
Lecture/discussion—2 hours. Prerequisite: course 110, 116, 124, 125, 127, 210 recommended. Critical evaluation of scientific and popular literature on selected topics of current interest that relate viticulture to fruit or wine sensory attributes or quality. May be repeated one time for credit. Offered in alternate years.—II. Matthews

292. Advanced Internship (1-15)
Internship—3-45 hours. Prerequisite: courses 123, 123T, 123L, 124, 124L, 125, 125L, 126, 126L, 128, 128L; consent of instructor. Restricted to Viticulture & Enology Graduate Group graduate students. Work experience related to Fermentation Science (Enology) or Plant Science (Viticulture) majors. Internships must be supervised and approved by your graduate group faculty mentor or students major professor, but are arranged by the student. May be repeated 12 units for credit. (S/U grading only)—I, II, III. (I, II, III)

297T. Tutoring in Viticulture and Enology (1-5)
Prerequisite: graduate standing and consent of instructor. Designed for graduate students who desire teaching experience, but are not teaching assistants. Student contact primarily in laboratory or discussion sections, and under direction of a faculty member. (S/U grading only.)

298. Group Study (1-5)
(S/U grading only.)

299. Research (1-12)
(S/U grading only.)

396. Teaching Assistant Training Practicum (1-4)
Prerequisite: graduate standing. May be repeated for credit. (S/U grading only.) I, II, III. (I, II, III.)

Viticulture and Enology (A Graduate Group)

David A. Mills, Ph.D., Chairperson of the Group

Group Office. 1204 EM North 530-752-1852; Fax 530-752-032; http://vengg.ucdavis.edu

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. Black, 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 Cantu, Ph.D. Assistant Professor (Viticulture and Enology)
Susan E. Ebeler, Ph.D., Professor (Viticulture and Enology)
Jean Xavier Guinard, Ph.D., Professor (Food Science and Technology)
Hildegard Heymann, Ph.D., Professor (Viticulture and Enology)
Maria Marco, Ph.D., Assistant 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., Associate Professor (Viticulture and Enology)
Li Tian, Ph.D., Assistant 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, Gubler, Ph.D., Specialist in Cooperative Extension (Plant Pathology)
Andrew J. McElrone, Ph.D., Assistant Adjunct Professor (Viticulture and Enology)
Anita Oberholster, Ph.D., Assistant Specialist in Cooperative Extension (Viticulture and Enology)
Keri L. Steinwerth, 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 science 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. H. Heymann, A.J. McElrone

War-Peace Studies

[College of Letters and Science]

The interdisciplinary minor in War-Peace Studies examines the causes and dynamics of intra- and international wars and efforts to prevent and settle such conflicts.

Students in the minor are encouraged to participate in the educational activities of the Davis Program of the UC Institute on Global Conflict and Cooperation (IGCC).

The minor is sponsored by the International Relations Program.

Minor Program Requirements:

 War-Peace Studies......................... 19-20

One or two courses from each of the following areas:

Approaches: Anthropology 123A, 126B, Comparative Literature 157, Philosophy 115, 118, Political Science 121, 123, 124, 132, 176, Sociology 157, Women’s Studies 102

Northern and Western Regions: History 134A, 138C, 142A, 143, 144A, 144B, 145, 1708, 1718, 1748, Native American Studies 1308, Political Science 130, 131

Southern and Eastern Regions: Anthropology 142, 143A, 143B, 144, History 165, 191F, 194C, Native American Studies 120, Political Science 142A

Restriction. No more than two courses from a single department may be offered in satisfaction of the minor requirements.

Advising. International Relations Program 530-754-8098

Water Science

See Hydrologic Sciences (A Graduate Group), on page 347; Hydrology, on page 348; and Soil and Water Science, on page 511.

Wildlife, Fish, and Conservation Biology

[College of Agricultural and Environmental Sciences]

John M. Eadie, Ph.D., Chairperson of the Department

Department Office. 1088 Academic Surge 530-752-6586; http://wfcb.ucdavis.edu

Faculty

Louis W. Batsfeld, Ph.D., Professor
Tim Caro, Ph.D., Professor
John M. Eadie, Ph.D., Professor
Nann A. Fangue, Ph.D., Assistant Professor
Douglas A. Kelt, Ph.D., Professor
A. Peter Klimley, Ph.D., Adjunct Professor
Peter B. Mayle, Ph.D., Professor

Quarter Offered: T-Fall, W-Fall, Spring, Summer. Winter 2015-2016 offering in parentheses.

Pre-Fall 2011 General Education (GE): Arts & Humanities; Sciences & Social Sciences; DivI-DivII-DivIII-DivIV-DivV-DivVI-World Cultures; Wrt-Writing Experience

Fall 2011 and on Revised General Education (GE): Arts & Humanities; Science and Engineering; Social Sciences; ACH-Arts and Humanities; SCI-Science and Engineering; SSCI-Social Sciences; DivI-DivII-DivIII-DivIV-DivV-DivVI-World Cultures; Wrt-Writing Experience