

Affiliated Faculty

Lowell L. Ashbaugh, Ph.D., Associate Researcher
(Crocker Nuclear Lab)
Diane M. Barrett, Ph.D., Specialist
(Food Science and Technology)
Warren H. White, Ph.D., Researcher
(Crocker Nuclear Lab)

Graduate Study. The Graduate Group in Agricultural and Environmental Chemistry offers programs of study and research leading to the M.S. and Ph.D. degrees. Study relates to the chemical and biochemical aspects of foods, wine, fibers/polymers, pesticides, and environmental pollution. Detailed information regarding graduate study may be obtained at <http://agchem.ucdavis.edu/>.

Graduate Advisers. D.O. Adams (*Viticulture and Enology*), D.S. Reid (*Food Science and Technology*), Y.-L. Hsieh (*Textiles and Clothing*), T. Shibamoto (*Environmental Toxicology*), T. Young (*Civil and Environmental Engineering*)

Courses in Agricultural and Environmental Chemistry (AGC)**Graduate Courses****290. Seminar (1)**

Seminar—1 hour. Selected topics in agricultural and environmental chemistry, presented by students. (S/U grading only.)—I, II, III. (I, II, III.)

298. Group Study (1-5)

Prerequisite: consent of instructor. The chemistry and biochemistry of foods, nutritional chemicals, pesticides, and other special topics as they apply to agricultural and environmental chemistry.

299. Research (1-12)

Arrangements should be made well in advance with a faculty member of the Group in Agricultural and Environmental Chemistry. (S/U grading only.)

Agricultural Computing and Information Systems

See [Applied Computing and Information Systems](#), on page 153.

Agricultural and Environmental Education

(College of Agricultural and Environmental Sciences and School of Education)

The Major Program

The major serves those interested in teaching agricultural and environmental sciences in schools or in non-formal settings such as nature preserve, environmental camps, or other venues. This major prepares graduates to direct programs in the agricultural and environmental sciences as well as provides them with a skill set necessary to work within social science careers related to these fields. This program of study meets state and federal requirements for teacher preparation in agriculture and science, as well as requirements in career technical education (CTE).

The Program

This program is designed to provide students with a broad background in various agricultural and environmental science disciplines, e.g., animal science, environmental science, plant and soil science, agri-

cultural engineering, business management, agroecology, and horticulture. The program also focuses on the social sciences related to human resource development. The program provides students with practical experiences through fieldwork, school and non-formal learning sites placements, or placements related to a student's focus of study. Through this major students will have the opportunity to explore and incorporate the diversity of agricultural and environmental issues facing today's society.

Career Alternatives

The need for scientists, technicians and creative educators to assist in domestic and international agricultural and environmental programs has created a continuing demand for qualified instructors and supervisory personnel. This major also provides general preparation which is appropriate for work in banking, sales and service, rural recreation and related agricultural and environmental sectors. Students interested in obtaining breadth in both agricultural and environmental sciences will appreciate the scope and flexibility the major provides.

Advising for the major is located in 1202 Meyer Hall (530) 754-7915. For credential information, see School of Education in 2060 Academic Surge (530) 752-0757

Major Adviser. C.J. Trexler

Courses in Agricultural Education (AED)

Questions pertaining to the following courses should be directed to the instructor or Lynn Martindale (530) 754-6655.

Lower Division Courses**92. Internship (1-12)**

Internship—3-36 hours. Prerequisite: lower division standing; consent of instructor. Supervised internship off and on campus in areas of agricultural education. (P/NP grading only.)

98. Directed Group Study (1-5)

Prerequisite: consent of instructor. (P/NP grading only.)

99. Special Study for Undergraduates (1-5)

Prerequisite: consent of instructor. (P/NP grading only.)

Upper Division Courses**100. Concepts in Agricultural and Environmental Education (3)**

Lecture—2 hours; laboratory—3 hours. Prerequisite: upper division standing. Philosophy and nature of formal and non-formal agricultural and environmental education programs. Emphasis on understanding the role of the teacher and observing a variety of programs. GE credit: SocSci, Wrt.—II. (II.) Martindale

160. Vocational Education (3)

Lecture—3 hours. Philosophy and organization of vocational education, with particular reference to educational principles for agriculture commerce, home economics, and industry. GE credit: SocSci, Wrt.—II. (II.)

171. Audiovisual Communications (2)

Lecture—1 hour; laboratory—3 hours. Prerequisite: upper division standing. Theory and principles of audiovisual communications. Comparison of audiovisual materials such as transparencies, slides, computer-generated graphics, and videos. Operation and use of audiovisual equipment is stressed.—II. (II.)

172. Multimedia Productions (3)

Lecture—2 hours; laboratory—3 hours. Prerequisite: course 171 recommended. Design and production of educational, technical, and professional multimedia presentations. Instructional or professional presentations using a variety of media, including slides, video, transparencies, and computer-generated graphics. Offered in alternate years. GE credit: SocSci, Wrt.—(III.)

190. Seminar in Agricultural Education (2)

Seminar—2 hours. Discussion of selected critical issues in agricultural education. May be repeated for credit with consent of instructor. (P/NP grading only.)—II. (II.)

192. Internship (1-12)

Internship—3-36 hours. Prerequisite: upper division standing; consent of instructor. Supervised internship off and on campus in areas of agricultural education. (P/NP grading only.)

198. Directed Group Study (1-5)

(P/NP grading only.)

199. Special Study for Advanced Undergraduates (1-5)

(P/NP grading only.)

Professional Courses**300. Directed Field Experience in Teaching (2)**

Discussion—1 hour; field experience—3 hours. Prerequisite: course 100. Experience as teaching assistant in agriculture or home economics programs in public schools. May be repeated once for credit. (P/NP grading only.)—I, II, III. (I, II, III.)

301. Planning for Instructional Programs (3)

Lecture—3 hours. Prerequisite: course 100; course 300 (may be taken concurrently). Major paradigms in program planning and development. Emphasis on key steps in curriculum development, including selection and organization of educational objectives, learning experiences and teaching materials and resources.—III. (III.) Trexler

302. Teaching Methods in Agricultural Education (3)

Lecture—2 hours; laboratory—2 hours. Prerequisite: course 100, course 300 (may be taken concurrently). Development of teaching strategies with special emphasis on the designing of learning experiences, instructional execution, and use of teaching aids in agricultural education.—I. (I.) Martindale

306A. Field Experience with Future Farmers of America and Supervised Experience Programs (4)

Lecture/discussion—2 hours; field work—6 hours. Prerequisite: acceptance into a teacher education program; course 306B (concurrently). Develop an understanding of the Future Farmers of America and supervised occupational experience programs through planning, conducting, and evaluating actual programs.—I, II, III. (I, II, III.)

306B. Field Experience in Teaching Agriculture (5-18)

Student teaching (corresponds with public school session). Prerequisite: acceptance into a teacher education program; course 306A (concurrently); courses 100, 300, 301, 302. Directed teaching including supervision of occupational experience programs and youth activities in secondary schools or community colleges. May be repeated for credit up to a maximum of 18 units.—I, II, III. (I, II, III.)

323. Resource Development: Agricultural Education (3)

Lecture—3 hours. Prerequisite: courses 306A, 306B. Selection and implementation of community resources in teaching.—I. (I.)

390. Seminar: Issues in Agricultural Education (2)

Discussion/laboratory—4 hours. Prerequisite: acceptance into a teacher education program and courses 306A-306B. Discussion and evaluation of current issues, theories and research in agricultural education. (S/U grading only.)—III. (III.)

Master Advisor. C.J. Trexler, Ph.D., Assistant Professor

Advising Center for the major, including peer advising, is located in 1202 Meyer Hall (530) 754-7915.