145. Meat Processing and Marketing (4) Lecture—3 hours; laboratory—3 hours. Prerequisite: course 133 or 144 or consent of instructor. Distribution, processing and marketing of meat and meat products. Meat and meat animal grading and pricing. Government regulations and social/consumer concerns. Future trends and impact on production. GE credit: SciEng | SE.—(II) Sainz

146. Dairy Cattle Production (5) Lecture—3 hours; laboratory—3 hours; fieldwork—1 hour. Discussion—1 hour. Prerequisite: course 102, 124, or Animal Genetics 107, and Nutrition 115, or consent of instructor. Scientific principles from genetics, nutrition, physiology, and related fields applied to conversion of animal feed to human food through dairy animals. Management and economic decisions are related to animal biology considering the environment and animal wellbeing. Mandatory Saturday fieldtrip. GE credit: SciEng | WR | OL, QL, SE, VL, WE.—III. (III) DePeters

147. Dairy Processing and Marketing (3) Lecture—2 hours; laboratory—3 hours. Prerequisite: course 146 or consent of instructor. Examination of distribution, processing, and marketing practices, productivity, quality, impact of government policy (domestic and foreign), marketing alternatives, and product development. GE credit: SciEng | SE.

148. Enterprise Analysis in Animal Industries (4) Lecture/discussion—4 hours. Prerequisite: course 141 or 145 or 147 or consent of instructor. Examination and application of decision making and problem solving in the production enterprise. The areas of production analysis, problem solving, risk analysis and cost/benefit analysis will be examined in terms of the total enterprise. GE credit: SoSci, Wrt | OL, QL, SE, VL, WE.—III. (III) Kebreab

149. Farrier Science (3) Lecture—3 hours. Prerequisite: course 115. Distance learning class broadcast from California Polytechnic State University San Luis Obispo, California Polytechnic State University, and California State University Fresno. In-depth examination of the structure-function relationship of the equine hoof and how it relates to conformation, injury, and performance. GE credit: SciEng | SE.

149L Farrier Science Laboratory (1) Laboratory—3 hours. Prerequisite: course 149 [may be taken concurrently] or consent of instructor. The art and science of shoeing in equine related fields. Proper use of the tools, materials and techniques in the fabrication of shoes and safe preparation of the hoof for application of shoes. (P/NP grading only.)

150. Ethics of Animal Use (4) Lecture—3 hours; discussion—1 hour. Prerequisite: any basic course in composition or speech. Ethical issues relating to animal use in contemporary society. Integration of philosophical theories with scientific evidence in the behavior, mental, and welfare. Uses of animals in agriculture, research, and as companions. Ethical responsibilities regarding wildlife and the environment. GE credit: SciEng | OL, QL, VL, WE.—III. (III) Green

190C. Research Group Conference (1) Discussion—1 hour. Prerequisite: advanced standing; consent of instructor. Weekly conference on research problems, progress and techniques in the animal sciences. May be repeated for credit. (P/NP grading only.)—I, II, III, (II, III)

192. Internship in Animal Science (1-12) Internship—3-36 hours. Prerequisite: completion of 84 units and consent of instructor. Internship off and on campus in dairy, livestock and aquaculture production, research and management; or in a business, industry, or agency associated with these or other agricultural enterprises. All requirements of Internship Approval Form must be met. (P/NP grading only.)—I, II, III, (II, III)

194R. Research in Animal Science (3) Laboratory—6 hours; discussion—1 hour. Prerequisite: upper division standing, course 193, one laboratory course in animal biology and consent of instructor. Research with a faculty mentor. Weekly discussion and laboratory on specific research topic. May include a seminar to research group. Choose from sections: (1) Animal Behavior; (2) Animal Genetics; (3) Animal Nutrition; (4) Animal Physiology. May be repeated for credit for a total of four times.—I, II, III, (II, III)

194HA. Undergraduate Honors Thesis in Animal Science (4) Lecture—1 hour; laboratory—9 hours. Prerequisite: Neurobiology, Physiology, and Behavior 101, Animal Biology 103, minimum cumulative GPA of 3.200 and selection by the Honors Selection Committee. Students will carry out a research project [chosen from faculty-suggested or approved proposals] during the academic year under the guidance of a faculty member. Upon completion, student will write a thesis and present a public seminar describing his/her research. (Deferred grading only, pending completion of sequence.) GE credit: SciEng | OL, SE.

194HB. Undergraduate Honors Thesis in Animal Science (4) Lecture—1 hour; laboratory—9 hours. Prerequisite: Neurobiology, Physiology, and Behavior 101, Animal Biology 103, minimum cumulative GPA of 3.200 and selection by the Honors Selection Committee. Students will carry out a research project [chosen from faculty-suggested or approved proposals] during the academic year under the guidance of a faculty member. Upon completion, student will write a thesis and present a public seminar describing his/her research. (Deferred grading only, pending completion of sequence.) GE credit: SciEng | OL, SE.

194HC. Undergraduate Honors Thesis in Animal Science (4) Lecture—1 hour; laboratory—9 hours. Prerequisite: Neurobiology, Physiology, and Behavior 101, Animal Biology 103, minimum cumulative GPA of 3.200 and selection by the Honors Selection Committee. Students will carry out a research project [chosen from faculty-suggested or approved proposals] during the academic year under the guidance of a faculty member. Upon completion, student will write a thesis and present a public seminar describing his/her research. (Deferred grading only, pending completion of sequence.) GE credit: SciEng | SE, VL.

197T. Tutoring in Animal Science (1-2) Tutorial—1-2 hours. Prerequisite: Animal Science or related major, advanced standing, consent of instructor. Tutoring of students in lower division animal science courses; weekly conference with instructor in charge of course. Written critiques of teaching procedures. May be repeated for credit. (P/NP grading only.)

198. Directed Group Study (1-5) Prerequisite: consent of instructor. (P/NP grading only.)

199. Special Study for Advanced Undergraduates (1-5) Prerequisite: consent of instructor. (P/NP grading only.)

Graduate

200. Strategies in Animal Production (4) Lecture/discussion—4 hours. Prerequisite: consent of instructor. Examines the forces and issues in animal agriculture through the strategic management process.

206. Models in Agriculture and Nutrition (3) Lecture—2 hours; laboratory—3 hours. Prerequisite: Mathematics 168; Statistics; basic model building principles and techniques for statistical and systems simulation models. Optimization techniques for non-linear experimental designs and management models are presented. Qualitative analysis and evaluation of linear and non-linear equations used in agriculture and nutrition.

259. Literature in Animal Science (1) Seminar—1 hour. Prerequisite: graduate standing. Critical presentation and analysis of recent journal articles in animal science. May be repeated for credit up to nine times. (S/U grading only.)

290. Seminar (1) Seminar—1 hour. Reports and discussions of topics of interest in genetics, nutrition, and physiology as they apply to animal science. (S/U grading only)—I, II, III, (II, III)

290C. Research Group Conference (1) Discussion—1 hour. Prerequisite: graduate standing. Weekly conference on research problems, progress and techniques in the animal sciences. May be repeated for credit. (S/U grading only)—I, II, III, (II, III)

291. Current Research in Animal Science (1) Seminar—1 hour. Prerequisite: graduate standing. Current research in animal science explored at weekly seminars presented by guest lecturers. Discussion of research presented. May be repeated for credit. (S/U grading only)—I, II, III, (II, III)

297. Supervised Teaching in Animal Science (2) Supervised teaching—6 hours. Prerequisite: consent of instructor. Practical experience in teaching Animal Science at the University level, curriculum design and evaluation; preparation and presentation of material. Assistance in laboratories, discussion sections, and evaluation of student work. An evaluation letter sent to the Graduate Adviser with a copy to the student. (S/U grading only)—I, II, III, (II, III)

298. Group Study (1-5) Prerequisite: consent of instructor. (Sec. 1, 2, 3—letter grading; from Sec. 4 on—S/U grading only.)

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

Animal Science and Management

[College of Agricultural and Environmental Sciences]

Master Adviser: J.G. Fadel

Advising Center for the major (including peer advising) is located in 1202 Meyer Hall 530-754-7915. Each student will be assigned a faculty adviser through this office upon entering the major. http://asac.ucdavis.edu

The Major Program

The Animal Science and Management major combines a thorough education in the basic biology of domestic animal species with a strong background in agricultural economics. Graduates of this interdisciplinary major will be well positioned to adjust to our rapidly changing world and job market.

The Program. The interdisciplinary program in Animal Science and Management combines a fundamental background in the natural sciences (chemistry, biology, physiology, nutrition, genetics, mathematics, and behavior), with an understanding
of economics and humanities. After completing preparatory courses, students focus on both the animal species that interest them (horses, cattle, sheep, companion animals, goats, fish, crustaceans or mollusks, among others) and principles of managerial economics (marketing, finance, business organization or systems analysis). Students preparing for medical or veterinary school can meet professional entrance requirements with those of this major if they plan ahead.

**Career Alternatives.** Job opportunities for successful graduates are plentiful and include positions in veterinary medicine, animal hospitals, animal husbandry, research, agriculture, government, banking and financial institutions, agribusiness, animal-related media, animal-related advertising, and the Peace Corps, and farms of all scales. Most Animal Science and Management graduates are well prepared for professional medical (veterinary) or technical (law, veterinary, and graduate business schools) as well as graduate research programs leading to the M.S. or Ph.D. degrees. Advanced degrees open doors to work as extension specialists, farm advisers, and teachers, and prepare students for international service.

**B.S. Major Requirements:**

**Written and Oral Expression................... 8**

Select two courses (if not selected for English college requirement) from: Communication 130, 134, 135, 136, 140; Nematology 150; University Writing Program 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 104A, 104B, 104C, 104D, 104E, 104F, 104G, 104H.

**Preparatory Subject Matter............... 69-72**

**Animal Science 1 and 2..................... 8**

Biological Sciences 2A, 2B, and 2C............. 13-15

Chemistry 2A, 2B, 8A, 8B.................... 16

Plant Sciences 21 or Computer Science

Engineering 15............................... 16

Economics 1A, 1B, Management 11A, 11B........ 18

Microbiology 16A, 16B, and 16C or 17A-B-C, or 21A-B-C.......................... 9-12

Plant Sciences 120, Statistics 100 or 103, or other courses in quantitative skills with prior approval of the Master Adviser............................. 8

**Depth Subject Matter............... 27-30**

Biological Sciences 101, 104, 105................ 5

Nutrition 115.................................. 4

Neurobiology, Physiology, and Behavior

101, 102, 134 or 135......................... 5

Business Management........................ 14-17

Agricultural and Resource Economics


**Area of Specializations............... 14-16**

Choose one area of specialization below:

**Aquatic Animals.......................... 16**

Animal Science 18, 118 or 119, 131, and 148.

**Companion Animals....................... 16**

Animal Science 42, 140, 142, and 148

Data Analysis

Animal Science 21

Animal Science 41, 41L, 146, 147, and 148.

**Equine................................... 15**


**Livestock............................... 16**

Animal Science 41, 41L, 143 or 144, 145, and 148.

**Pet Foods................................ 15**


**Individualized......................... 14-16**

Students may, with prior approval from their advisor and the Master Adviser, design their own individualized specialization within the major. The specialization will consist of 4 to 6 courses with one of the courses being Animal Science 148. The other courses may include introduction, care and management, and processing and/or marketing aspects of the animal of interest.

**Restricted Electives............... 0-10**

At least two additional courses (minimum 8 units; duplicate from Depth courses not counted) selected with approval of adviser from: Agricultural and Resource Economics 18, 112, 113, 117, 132, 136, 138, 140, 142, 143, 144, 145, 150, 155, 157, 171A, 171B, 176; Animal Science 103, 104, 106, 115, 118, 120, 120L, 121, 123, 123A, 123B, 123C, 123D, 123E, 123F, 123G, 136, 137, 140, 141, 142, 143, 144, 145, 146, 147, 149, 150, 192, 194, 194H; Avian Sciences 100, 103, 115, 121, 123, 149, 150; Animal Genetics 101, 105, 107, 111; Nutrition 122, 123, 123L, 124; Animal Biology 102 (strongly recommended); 103, Computer Science Engineering 124, Management 100, Neurobiology, Physiology, and Behavior 117, 121, 121L, 130; Wildlife, Fish, and Conservation Biology 120, 120L, 130.

**Total Units for the Major............. 126-136**

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**Anthropology**

(College of Letters and Science)

Li Zhang, Ph.D., Chairperson of the Department

**Department Office.** 328 Young Hall

530-752-0745;

http://www.anthropology.ucdavis.edu

**Faculty.**

Robert L. Bettinger, Ph.D., Professor

Manique Borgerhoff Mulder, Ph.D., Professor

Timothy K. Choy, Ph.D., Associate Professor

Science and Technology Studies

Margaret C. Crofoot, Ph.D., Assistant Professor

Joseph Dumit, Ph.D., Professor

Science and Technology Studies

Jelmer W. Eerkens, Ph.D., Professor

Lyne A. Isbell, Ph.D., Professor

Academic Senate Distinguished Teaching Award

Suad Joseph, Ph.D., Distinguished Professor

Women and Gender Studies

Alan Klima, Ph.D., Professor

Andrew J. Marshall, Ph.D., Associate Professor

Richard McElreath, Ph.D., Professor

Suzanna M. Sawyer, Ph.D., Associate Professor

Janet S. Shibamoto-Smith, Ph.D., Professor

James H. Smith, Ph.D., Professor

Smriti Srinivas, Ph.D., Professor

teresa E. Steele, Ph.D., Associate Professor

Timothy D. Weaver, Ph.D., Associate Professor

Nicolas Zwyna, Ph.D., Assistant Professor

**Emeriti Faculty.**

Bruce P. Winterhalder, Ph.D., Professor Emeritus

Aram A. Yengoyan, Ph.D., Distinguished Professor

Sarah B. Hrdy, Ph.D., Professor Emerita

**The Major Program.**

Anthropology is the systematic study of human beings. The student of anthropology explores human biology, ecology, and social life—past and present—and gains a broad understanding of humans and societies. It is a diverse field, and the courses, faculty, and degree programs at UC Davis are subdivided into two wings—Evolutionary and Sociocultural.

**Evolutionary.** Evolutionary anthropologists are united by their common application of science to understand the behavior, ecology, history, and evolution of humans and non-human primates, as individuals and as societies. The many useful approaches to these topics bring together archaeology, human behavioral ecology, molecular anthropology, paleo-anthropology, biogeography, conservation biology, and primatology.

**Sociocultural.** Sociocultural anthropologists study the varied ways in which people around the world organize their lives and interpret the circumstances in which they operate. Their main method is extended field research, which combines attention to global issues with the close study of human relations and culture. Among the topics covered in the department’s undergraduate courses are globalization and transnationalism; human ecology and environmental change; cultures of healing, health and medicine, the global spread of new technologies, migration, multiculturalism and urban life; colonialism and neocolonialism development and post-development; race, class and gender; politics and the public; cultures of everyday life; language use and discourse; and self, identity and family.

The track in sociocultural anthropology thus offers a rich set of resources for understanding and engaging pressing issues in a globalizing world characterized by new forms of international culture and community as well as by increasing material inequality and political volatility.

**The Program.** The Bachelor of Arts program is divided into two tracks, Sociocultural and Evolutionary, which parallel the two wings described above. Students interested in the study of current and contemporary human languages and societies should follow the Sociocultural Track, which offers a general degree in sociocultural anthropology, each student is required to complete courses that provide (1) foundational skills, (2) language and cultural skills, (3) comprehensive skills, and (4) a research project. Students interested in the study of archaeology; primate studies; or human biology, ecology or origins should follow the Evolutionary Track. The B.A. degree offered by the Evolutionary Track general degree in anthropology from an evolutionary perspective. The Evolutionary Track also offers a B.S. degree that requires more rigorous lower division coursework in...