190. Seminar in Avian Sciences (1) 
Seminar—1 hour. Prerequisite: upper division standing in Avian Sciences and consent of instructor. May be repeated three times for credit. (P/NP grading only.)—I, II, III (I, III, II, III)

192. Internship in Avian Sciences (1-12) 
Internship—336 hours. Prerequisite: completion of a minimum of 84 units, consent of instructor. Internship is on and off campus in poultry, game birds or exotic bird production, management and research; or in a business, industry, or agency concerned with these entities. Compliance with Internship Approval form essential. (P/NP grading only.)

195. Topics in Current Research (1-3) 
Lecture/discussion—1-3 hours. Prerequisite: consent of instructor. Discussion of topics of current interest in avian science. May be repeated three times for credit.—I, II, III (I, II, III)

197T. Tutoring in Avian Sciences (1-3) 
Tutorial—1-3 hours. Prerequisite: Avian Sciences or related major, advanced standing, consent of instructor. Tutoring of students in lower division avian sciences courses; weekly conference with instructor in charge of courses; written critiques of teaching procedures. (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

203. Advanced Avian Development and Genomics (1) 
Discussion—1 hour. Prerequisite: graduate standing; concurrent enrollment in course 103. In consultation with the instructor, students develop a lecture and associated instructional materials, i.e., lesson plan, including justification, reading and presentation and evaluation aids. The topic must complement a topic covered in Avian Sciences 103 (Avian Development and Genomics).—I (I, II, III)

290. Seminar (1) 
Seminar—1 hour. Reports and discussions of recent advances and selected topics of current interest in avian genetics, physiology, nutrition, and poultry technology.—I (I, II, III)

290C. Research Conference (1) 
Discussion—1 hour. Prerequisite: graduate standing and consent of instructor. Major professors lead research discussions with their graduate students. Research papers are reviewed and project proposals presented and evaluated. Format will combine seminar and discussion. (S/U grading only.)—I, II, III (I, II, III)

297T. Supervised Teaching in Avian Sciences (1-4) 
Tutorial—1-4 hours. Prerequisite: graduate standing and consent of instructor. Tutoring of students in lower, upper division, and graduate courses in Avian Sciences; weekly conference with instructor in charge of course; written critiques of teaching methods in lectures and laboratories. (S/U grading only.)

298. Group Study (1-5) 
Prerequisite: consent of instructor.

299. Research (1-12) 
Prerequisite: consent of instructor. (S/U grading only.)

Avian Sciences (A Graduate Group)

Kirk Kissing, Ph.D., Chairperson of the Group
Group Office. 1249 Meyer Hall 530-752-2382; http://aviansciences.ucdavis.edu

Faculty

C. Christopher Calvert, Ph.D., Professor
(Animal Science)

Thomas P. Coombs-Hahn, Ph.D., Associate Professor (Neurobiology, Physiology, and Behavior)

Mary E. Delany, Ph.D., Professor (Animal Science)

John M. Eadie, Ph.D., Professor (Wildlife, Fish, and Conservation Biology, Animal Science)

Holly B. Ernest, D.V.M., Ph.D., Associate Professor (Veterinary Genetics Laboratory and Population Health and Reproduction; School of Veterinary Medicine)

Michelle Hawkins, V.M.D., ABVP, Associate Professor (Medicine and Epidemiology, School of Veterinary Medicine)

Joshua M. Hull, Ph.D., Assistant Adjunct Professor (Animal Science)

Annie J. King, Ph.D., Professor (Animal Science)

Kirk C. Kissing, Ph.D., Professor (Animal Science)

Jennell E. Loye, Ph.D., Research Associate (Entomology)

Joy A. Mench, Ph.D., Professor (Animal Science)

James R. Millam, Ph.D., Professor (Animal Science)

Gabrielle Nevitt, Ph.D., Professor (Neurology, Physiology, and Behavior)

Joanne R. Paul-Murphy, D.V.M., Ph.D. Professor (Medicine & Epidemiology; School of Veterinary Medicine)

Lisa A. Tell, D.V.M., Professor (Medicine and Epidemiology, School of Veterinary Medicine)

Andrea Townsend, Ph.D., Assistant Professor (Wildlife, Fish, and Conservation Biology)

Emeriti Faculty

Hans Abplanalp, Ph.D., Professor Emeritus

Dan Anderson, Ph.D., Professor

Francine A. Bradley, Ph.D., Specialist Emeritus

Ralph A. Ernst, Ph.D., Specialist Emeritus

Peter Marler, Ph.D., Professor Emeritus

Barry W. Wilson, Ph.D., Professor Emeritus

Graduate Study. The Graduate Group in Avian Sciences offers the M.S. degree program to students who wish to pursue specialized advanced work on avian species. Specializations students may choose may include behavior, nutrition, physiology, reproduction, pathology, immunology, toxicology, food chemistry, management, ecology, genetics, comparative and functional anatomy, environmental physiology, and cellular and developmental studies using wild and domestic birds as experimental animals. Both master’s degree plans, thesis or comprehensive examination, are available.

Preparation. Applicants should have undergraduate preparation in a field appropriate to the course of study selected, including courses in most of the following subjects: general biology, general and organic chemistry, biochemistry, avian biology, genetics, nutrition, physiology, and statistics.


Biochemistry and Molecular Biology

See Biochemistry, Molecular, Cellular and Developmental Biology, on page 177; Molecular and Cellular Biology, on page 430

Biochemistry and Molecular Biology (A Graduate Group)

The Biochemistry and Molecular Biology program has merged with the Cell and Developmental Biology program to form Biochemistry, Molecular, Cellular, and Developmental Biology (BMCDB), see Biochemistry, Molecular, Cellular, and Developmental Biology, on page 177.

Group Office. 227B Life Sciences 530-752-9091; http://bioisci3.ucdavis.edu/GradGroups/BMCDB/

Biological Chemistry

See Medicine, School of, on page 396.

Biochemistry, Molecular, Cellular and Developmental Biology

Mitch Singer, Ph.D., Chairperson of the Group 530-752-9005

Group Office. 227B Life Sciences 530-752-9091; http://bioisci3.ucdavis.edu/GradGroups/BMCDB/

Faculty

Iannis, Adamopoulos, Ph.D., Assistant Professor (Medical Division of Internal Medicine)

Jawad AlBassam, Ph.D., Assistant Professor (Molecular and Cellular Biology)

John, Albeck, Ph.D., Assistant Professor (Molecular and Cellular Biology)

Peter Armstrong, Ph.D., Professor (Molecular and Cellular Biology)

Shota Atsumi, Ph.D., Assistant Professor (Chemistry)

Enoch Baldwin, Ph.D., Associate Professor (Molecular and Cellular Biology)

Peter A Beal, Ph.D., Professor (Chemistry)

Kenneth A Beck, Ph.D., Associate Professor (Cell Biology and Human Anatomy)

Alan Bennett, Ph.D., Professor (Plant Sciences)

Donald M. Bers, Ph.D., Professor (Pharmacology)

Charles Bevins, Ph.D., Professor (Medical Microbiology and Immunology)

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

Eduardo Blumwald, Ph.D., Professor (Plant Sciences)

Laura Borodinsky, Ph.D., Assistant Professor (Physiology and Membrane Biology)

Alexander Borowsky, Ph.D., Associate Professor (Pathology)

Saeidin Mary Brady, Ph.D., Assistant Professor (Plant Biology)

Ann B. Britt, Ph.D., Professor (Plant Biology)