

SCHOOL OF MEDICINE

COMPARATIVE MEDICINE

Chair: Sherril Green

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Courses offered by the Department of Comparative Medicine are listed under the subject code COMPMED on the *Stanford Bulletin's* ExploreCourses web site.

The Department of Comparative Medicine is a clinical department that offers residency training in laboratory animal medicine for veterinarians, although it does not offer degrees. Its faculty offer courses at the undergraduate and graduate levels and participate in teaching in other departments. Both clinical faculty members, who are board-certified specialists in a veterinary medical specialty, and basic science faculty accept students to participate in ongoing research projects within the department and assist students with special research projects.

The discipline of Comparative Medicine uses the differences and similarities among species to understand biologic and disease mechanisms. It incorporates spontaneous or induced disease models as one of several approaches to research. The research interests of faculty are in neuroscience, infectious diseases, neuropathology, cancer, and molecular genetics.

COMPARATIVE MEDICINE (COMPMED)

UNDERGRADUATE COURSES IN COMPARATIVE MEDICINE

COMPMED 81N. Comparative Anatomy and Physiology of Mammals

(F,Sem) Stanford Introductory Seminar. Preference to freshmen. Comparative approach to common mammals, laboratory, and domestic species. The unique adaptations of each species in terms of its morphological, anatomical, and behavioral characteristics. How these species interact with human beings and other animals. GER: DB-NatSci

3 units, Win (Bouley, D)

COMPMED 84Q. Globally Emerging Zoonotic Diseases

(S,Sem) Stanford Introductory Seminar. Preference to sophomores. Infectious diseases impacting veterinary and human health around the world today. Mechanisms of disease, epidemiology, and underlying diagnostic, treatment and control principles associated with these pathogens.

3 units, Spr (Felt, S)

COMPMED 87Q. Introduction to the Mouse in Biomedical Research

(S,Sem) Stanford Introductory Seminar. Preference to sophomores. The laboratory mouse, one of the most widely used models for biomedical research. The natural history and origin of the laboratory mouse, its relationship to its wild cousins, the history and uses of some common laboratory mice, widely used research models (transgenic mice, knock-out and knock-in mice, cloning, immunodeficient mice) and their uses in the understanding and treatment of human diseases. Reading and discussion of scientific papers; presentation of a paper that uses the mouse as a model for the study of a human disease.

3 units, Aut (Nagamine, C)

COMPMED 103. Horse Medicine

The most common equine diseases, ranging from colic to lameness. Equine anatomy and physiology relevant to topics in equine medicine. Equine infectious diseases, care of the newborn foal, medical emergencies, and neurological disorders. Laboratory sessions involve physical examination of the horse and review the basics of the neurological and lameness exam.

2 units, Win (Green, S)

COMPMED 107. Comparative Neuroanatomy

(Same as COMPMED 207) Functional organization and evolution of the vertebrate nervous system. Topics include paleoneurology, cladistic analysis, allometry, mosaic versus concerted evolution, and evolution of brain region structure, connectivity, and neurons. Comparisons between structure and function of vertebrate forebrains including hippocampi. Evolution of the primate visual and sensorimotor central nervous system as related to vocalization, socialization, and intelligence.

4 units, not given this year

COMPMED 110. Pre-Vet Advisory

For students interested in a career in veterinary medicine. Guest speakers present career options in veterinary medicine. Networking with other pre-vet students. How to meet the academic and practical experience prerequisites for admission to veterinary school. Prerequisite: consent of instructor.

1 unit, Aut (Bouley, D), Win (Bouley, D), Spr (Bouley, D)

COMPMED 198. Undergraduate Directed Reading in Comparative Medicine

May be taken as a prelude to research and may also involve participating in a lab or research group seminar and/or library research.

1-3 units, Aut (Staff), Win (Staff), Spr (Staff), Sum (Staff)

COMPMED 199. Undergraduate Research

Investigations sponsored by individual faculty members. Prerequisite: consent of instructor.

1-3 units, Aut (Staff), Win (Staff), Spr (Staff), Sum (Staff)

GRADUATE COURSES IN COMPARATIVE MEDICINE

COMPMED 207. Comparative Neuroanatomy

(Same as COMPMED 107) Functional organization and evolution of the vertebrate nervous system. Topics include paleoneurology, cladistic analysis, allometry, mosaic versus concerted evolution, and evolution of brain region structure, connectivity, and neurons. Comparisons between structure and function of vertebrate forebrains including hippocampi. Evolution of the primate visual and sensorimotor central nervous system as related to vocalization, socialization, and intelligence.

4 units, not given this year

COMPMED 299. Directed Reading in Comparative Medicine

Prerequisite: consent of instructor. (Staff)

1-18 units, Aut (Staff), Win (Staff), Spr (Staff), Sum (Staff)

COMPMED 370. Medical Scholars Research

Provides an opportunity for student and faculty interaction, as well as academic credit and financial support, to medical students who undertake original research. Enrollment is limited to students with approved projects.

4-18 units, Aut (Staff), Win (Staff), Spr (Staff), Sum (Staff)

COMP MED 399. Graduate Research

Investigations sponsored by individual faculty members. Opportunities are available in comparative medicine and pathology, immuno-histochemistry, electron microscopy, molecular genetics, quantitative morphometry, neuroanatomy and neurophysiology of the hippocampus, pathogenesis of intestinal infections, immunopathology, biology of laboratory rodents, anesthesiology of laboratory animals, gene therapy of animal models of neurodegenerative diseases, and development and characterization of transgenic animal models. Prerequisite: consent of instructor.

1-18 units, Aut (Staff), Win (Staff), Spr (Staff), Sum (Staff)

This non-official pdf was extracted from the Stanford Bulletin 2009-10 in August 2009 and is not updated to reflect corrections or changes made during the academic year.

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