

# COMPARATIVE MEDICINE

---

*Chair:* Linda C. Cork

*Professor:* Linda C. Cork, Donna Bouley, Sherril Green

*Associate Professors:* Paul Buckmaster, Corinna Darian-Smith, Shaul Hestrin

*Assistant Professors:* Stephen Felt, Claude Nagamine

*Department Offices:* Edwards Building, Room R321

*Mail Code:* 94305-5342

*Phone:* (650) 498-5080

*Web Site:* <http://med.stanford.edu/compmed>

Courses offered by the Department of Comparative Medicine have the subject code COMPMED, and are listed in the "Comparative Medicine (COMPAMED) Courses" section of this bulletin.

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 specialists in a veterinary medical specialty, and basic science faculty also accept students to participate in ongoing research projects within the department and assist students with special research projects.

The discipline of Comparative Medicine use 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 (COMPAMED) COURSES

---

For information on graduate programs in the Department of Comparative Medicine, see the "Comparative Medicine" section of this bulletin. Course and laboratory instruction in the Department of Comparative Medicine conforms to the "Policy on the Use of Vertebrate Animals in Teaching Activities," the text of which is available at <http://www.stanford.edu/dept/DoR/rph/8-2.html>.

### UNDERGRADUATE COURSES IN COMPARATIVE MEDICINE

#### **COMPAMED 81N. Comparative Anatomy and Physiology of Mammals**

Stanford Introductory Seminar. Preference to sophomores. 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)*

#### **COMPAMED 84Q. Globally Emerging Zoonotic Diseases**

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

*3 units, Spr (Felt, S)*

#### **COMPAMED 107. Comparative Neuroanatomy**

(Same as COMPAMED 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, Aut (Buckmaster, P; Darian-Smith, C)*

#### **COMPAMED 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)*

#### **COMPAMED 198. Undergraduate Directed Reading in Comparative Medicine**

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

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

#### **COMPAMED 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

Primarily for graduate students; undergraduates may enroll with consent of instructor.

#### **COMPAMED 207. Comparative Neuroanatomy**

(Same as COMPAMED 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, Aut (Buckmaster, P; Darian-Smith, C)*

#### **COMPAMED 299. Directed Reading in Comparative Medicine**

Prerequisite: consent of instructor.

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

#### **COMPAMED 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)*