

COMPARATIVE MEDICINE

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Courses given in Comparative Medicine have the subject code COMPMED. For a complete list of subject codes, see Appendix.

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

COURSES

Course and lab 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>.

COMPMED 81N. Comparative Anatomy and Physiology of Mammals—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 humans and the historical relationships between humans and these animal species.

3 units, Win (Bouley, D)

COMPMED 83Q. Horse Medicine—Stanford Introductory Seminar. Preference to sophomores. The most common equine diseases, ranging from colic to lameness. Equine anatomy and physiology relevant to topics in equine medicine. Equine infectious diseases, respiratory disorders, care of the newborn foal, a what's-your-diagnosis problem series, and emergency first aid strategies.

1-2 units, Aut (Green, S)

COMPMED 106. A Primate Perspective on Brain Evolution—How to distinguish primate subgroups; how to place primates among mammals, and humans among primates, with respect to body structure, brain organization, and function. The unique characteristics of primates; what factors contributed to the evolution of primate groups, hominids, and modern human beings. The role of the hand in primate evolution. What extant primates reveal about language acquisition. How these changes are reflected in the sensorimotor organization of the primate brain. Prerequisite: freshman biology.

3 units, not given this year

COMPMED 107/207. Comparative Neuroanatomy—(Graduate students register for 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)

UNDERGRADUATE INDIVIDUAL WORK

COMPMED 198. 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, Win, Spr, Sum (Staff)

COMPMED 199. Undergraduate Research—Allows for qualified students to undertake investigations sponsored by individual faculty members. Prerequisite: consent of instructor.

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

FOR GRADUATE STUDENTS

COMPMED 299. Directed Reading in Comparative Medicine—Prerequisite: consent of instructor.

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

COMPMED 399. Graduate Research—Allows for qualified students to undertake investigations sponsored by individual faculty members. Opportunities are available in comparative medicine and pathology, immunohistochemistry, 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. Enrollment limited to 6. Prerequisite: consent of instructor.

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

COGNATE COURSE

See respective department listings for course descriptions. See degree requirements above or the program's student services office for applicability of these courses to a major or minor program.

MCP 215. Synaptic Transmission

5 units, Aut (Staff)