Department of Neuroscience

Courses

M05 Neurosci 810 Advanced Dissection (Non-Clinical Elective)
Students will perform detailed dissections on a discrete region of the body of their choosing - i.e. head/neck, thorax, abdomen, pelvic cavity, or limbs. Students will compile a list of personal learning objectives with the approval of the course director(s). A minimum of 30 hours of self-paced individual dissection is required and may include practice of surgical approaches, and/or study of cross-sectional anatomy and medical imaging. Available to medical students only.

L41 Biol 5571 Cellular Neurobiology
This course will present a fully integrated overview of nerve cell structure, function and development at the molecular and cellular level. Broad topics to be covered include gene structure and regulation in the nervous system, quantitative analysis of voltage- and chemically-gated ion channels, presynaptic and postsynaptic mechanisms of chemical neurotransmission, sensory transduction, neurogenesis and migration, axon guidance and synapse formation. Two lectures plus one hour of discussion per week for 14 weeks. There will be three exams, as well as homework problems and summaries of discussion papers. Prerequisites: graduate standing or permission of the instructor. Credit 6 units.

L41 Biol 5561 Neural Systems
The course will consist of lectures and discussions of the sensory, motor and integrative systems of the brain and spinal cord, together with a weekly lab. The lectures will present aspects of most neural systems, and will be given by faculty members who have specific expertise on each topic. The discussions will include faculty led group discussions and papers presented and discussed by students. The labs will include human brain dissections, examination of histological slides, physiological recordings, behavioral methods, computational modeling, and functional neural imaging. Credit 3 units.

L41 Biol 5989 Advanced Topics in Neuroscience
This course will expose upper-level and postdoctoral students to advanced topics and methods in neuroscience. The course will rapidly fill gaps in student knowledge in areas that may be relevant to new directions in thesis work or interest areas. Each section of the course will be offered asynchronously, sometimes in coordination with existing journal clubs and other seminars. Each section will meet for two hours per week for three weeks. Sections may start with a didactic component or a review paper, but they will quickly delve into the discussion of primary papers curated by faculty covering a focused topic. It is expected that papers will cover both historical and current contexts. Some sections will focus on technique; others will be conceptually focused. Each section will be led by a faculty member drawn from the Neuroscience program in an area of their expertise. Objectives include deepening critical thinking, statistical knowledge, experimental design, and technical prowess. Credit 0.5 units.