

NEXT - NEURO EXPER THERAPEUTIC

NEXT 601 Advanced Neuroscience

Credits 2. 1 Lecture Hour. 2 Lab Hours. Details of mammalian nervous system, including humans; focus on organization of functional neural systems and their integrative action; use of original research papers.

Prerequisites: Approval of instructor.

NEXT 603 Neuropsychopharmacology

Credits 4. 4 Lecture Hours. Pharmacology as it relates to behavior and the central nervous system. **Prerequisites:** MSCI 601, MSCI 602 or equivalents or course director approval.

NEXT 604 Special Regional Human Dissections

Credits 1 to 3. 1 to 3 Lecture Hours. Dissection of special regions with more detail than the medical gross anatomy course; histological, neural and gross anatomical material utilized. **Prerequisites:** Approval of instructor.

NEXT 605 Molecular Mechanisms of Drug and Toxin Action I

Credits 4. 4 Lecture Hours. Introduction to the major tools and concepts of pharmacology. This is a two part series. By the end of these courses, the student will understand how selectivity of drug action is determined by pharmacological principles and will have a scientific basis for a rational approach to the study of drug actions and side effects.

Prerequisite: Approval of instructor.

NEXT 606 Molecular Mechanisms of Drug and Toxin Action II

Credits 4. 4 Lecture Hours. Survey of ocular drugs, overview of molecular signaling mechanisms and selected topics in developmental neuropharmacology. **Prerequisite:** Approval of instructor.

NEXT 607 Molecular Mechanisms of Drug and Toxin Action III

Credits 4. 4 Lecture Hours. Interaction of drugs and toxins with neurotransmitter systems with primary emphasis on mechanisms involving receptor function that impacts central nervous system integration. **Prerequisite:** Approval of instructor.

NEXT 608 Methods in Neurohistology

Credits 2. 2 Lecture Hours. Instruction in anesthetization, perfusion of animals; removal of neural tissues; histological processing, staining of tissues, including immunohistochemistry. **Prerequisites:** Approval of instructor.

NEXT 610 Principles of Neuroscience I

Credits 3. 3 Lecture Hours. Detailed introduction to the basic fundamentals of cellular and molecular neuroscience; topics include membrane potentials, action potential generation, and the mechanisms underlying synaptic transmission, as well as their molecular basis.

Prerequisites: Graduate classification or approval of instructor. **Cross Listing:** BIOL 627 and NRSC 601.

NEXT 620 Gross Anatomy

Credits 8. 8 Lecture Hours. This course will study the relationship of structures and the functional significance of the human body during its development and adult form as revealed through dissection. **Prerequisite:** Approval of instructor.

NEXT 621 Teaching Gross Anatomy

Credits 4. 1 Lecture Hour. 6 Lab Hours. Provides teaching and supervisory experience for graduate students; instructs students in teaching and supervising medical students in Gross Anatomy; students observe in the laboratory and create a lecture presentation or develop an education-based learning module. **Prerequisite:** NEXT 620 and approval of instructor.

NEXT 622 Teaching Medical Histology

Credits 3. 2 Lecture Hours. 2 Lab Hours. Provides teaching and supervisory experience for graduate students; instructs students in teaching and supervising medical students in Microscopic Anatomy. **Prerequisite:** Approval of instructor.

NEXT 623 Teaching in Medical Neuroscience

Credits 2. 3 Lab Hours. 5 Other Hours. Assist in the teaching of Medical Neuroscience, to include lectures, laboratories and examination setup and proctoring. **Prerequisites:** Approval of instructor.

NEXT 681 Seminar

Credit 1. 1 Lecture Hour. Focus will be on critical scientific thinking. Emphasis placed on oral communications, scientific writing and grant preparation. **Prerequisite:** Graduate student in medicine. Approval of instructor.

NEXT 685 Directed Studies

Credits 1 to 6. 1 to 6 Lab Hours. Limited investigation in fields other than those chosen for thesis or dissertation. **Prerequisite:** Approval of instructor.

NEXT 689 Special Topics

Credits 1 to 4. 1 to 4 Lecture Hours. Selected topics in an identified area of pharmacology and toxicology. May be repeated for credit when topics vary. **Prerequisite:** Approval of instructor.

NEXT 989 Special Topics in Medical Anatomy

Credits 1 to 2. 1 to 2 Lecture Hours. Selected topics in an advanced area of medical neuroscience, anatomy, and medical pharmacology.

NEXT 999 NEXT Problems

Credits 1.25 to 12. 1.25 to 12 Other Hours. This is an on-campus opportunity in the Neuroscience and Experimental Therapeutics department in the College of Medicine that is not defined herein. Experiences may include clinical research, basic science research, library research, other basic science activities, and other clinical activities. Students interested in developing an elective of this type should contact the head of the appropriate department for additional details.