840 Writing in the Sciences
Fall, Spring, Summer. 2(2-0) A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Arts and Letters.
Discussion and critique of students' writing in peer response workshop groups

835 Topics and Methods in Neuroepidemiology
Summer of even years. 3(3-0) Interdepartmental with Epidemiology. Administered by Department of Epidemiology. RB: (EPI 810)
Epidemiology of neurologic conditions and discussion of the inherent difficulty in studying these disorders.

827 Physiology and Pharmacology of Excitable Cells
Fall. 4(4-0) Interdepartmental with Pharmacology and Toxicology; Physiology; Zoology. Administered by Department of Pharmacology and Toxicology. RB: (PSL 431 or PSL 432 or BMB 401 or BMB 461 or ZOL 402)
Function of neurons and muscle at the cellular level: membrane biophysics and potentials, synaptic transmission, sensory nervous system function.

839 Systems Neuroscience
Spring. 4(4-0) Interdepartmental with Human Anatomy; Pharmacology and Toxicology; Physiology; Psychology; Zoology. R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Agriculture and Natural Resources, Natural Science, Social Science, and Veterinary Medicine. SA: ANT 839
Anatomy, pharmacology, and physiology of multicellular neural systems. Sensory, motor, autonomic, and chemo-regulatory systems in vertebrate brains.

885 Vertebrate Neural Systems
Spring of odd years. 3(2-2) Interdepartmental with Human Anatomy; Physiology. SA: ANT 885
Comparative analysis of major component systems of vertebrate brains. Evolution, ontogeny, structure, and function in fish, amphibians, reptiles, birds and mammals.

890 Independent Study in Neuroscience
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. RB: Bachelor's degree in neuroscience, biology, psychology, or related area.
Supervised student research on a specialized research topic in basic or clinical neuroscience.

899 Master's Thesis Research
Fall, Spring, Summer. 1 to 36 credits. A student may earn a maximum of 99 credits in all enrollments for this course.
Master's thesis research.

992 Advanced Topics in Neuroscience
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. RB: (NEU 804 and NEU 811 and NEU 827 and ANT 839) Bachelor's degree in neuroscience, biology, psychology or related area.
Readings, presentations and discussion of specialized topics in neuroscience.

999 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 120 credits in all enrollments for this course.
Doctoral dissertation research.

NEUROLOGY AND OPHTHALMOLOGY NOP

Department of Neurology and Ophthalmology
College of Osteopathic Medicine

552 Medical Neuroscience
Spring. 4(3-2) Interdepartmental with Physiology; Radiology; Human Anatomy. R: Graduate-professional students in the Colleges of Human Medicine and Osteopathic Medicine. SA: ANT 552
Correlation of normal structure and function of the human nervous system with clinical testing, classical lesions, and common diseases.

590 Special Topics in Clinical Neuroscience
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
Work under the direction of a faculty member on an experimental, theoretical or applied problem in clinical neuroscience or neurology.

617 Neurology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. RB: (MED 608) R: Open only to graduate-professional students in College of Human Medicine. SA: MED 617
Office and inpatient experience. Evaluation and management of neurological disease.

620 Directed Studies
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 24 credits in all enrollments for this course. RB: Completion of Semester 6 in the graduate-professional program. R: Open only to graduate-professional students in the College of Osteopathic Medicine.
Study in general or specialty neurology and ophthalmology.

656 Neurology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II. SA: PMR 656
Clinical exposure in neurology. Program structure developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.

NEUROSCIENCE NEU

Program in Neuroscience
College of Natural Science

800 Neuroscience Research Forum
Fall, Spring, Summer. 1(1-0) A student may earn a maximum of 8 credits in all enrollments for this course. RB: Bachelor's degree in neuroscience, biological or psychological science, or related area.
Readings, presentations, and discussions of research literature in neuroscience. Professional development.

804 Molecular and Developmental Neurobiology
Fall. 3(3-0) Interdepartmental with Pharmacology and Toxicology; Psychology; Pathology; Zoology. RB: Bachelor's degree in a Biological Science or Psychology. R: Open only to graduate students in the Neuroscience major.
Nervous system specific gene transcription and translation. Maturation, degeneration, plasticity and repair in the nervous system.

806 Advanced Neuroscience Techniques Laboratory
Spring. 3(0-9) Interdepartmental with Psychology; Pharmacology and Toxicology; Radiology; Physical Medicine and Rehabilitation. RB: (PHM 827) R: Open only to doctoral students in the Neuroscience major.
Methods and underlying principles of neuroscience research.

811 Advanced Behavioral Neuroscience
Spring. 3(3-0) Interdepartmental with Psychology. Administered by Department of Psychology. RB: (PSY 411) approval of department. R: Open only to graduate students in the Psychology and Neuroscience major.
Biological mechanisms involved in learning and memory, motivated behaviors, biological rhythms, and psychopathologies.

820 Advanced Neuroanatomy
Summer of odd years. 1 to 5 credits. A student may earn a maximum of 12 credits in all enrollments for this course. Interdepartmental with Human Anatomy. R: Approval of department.
Current topics in anatomy and physiology processes of central nervous system cells.

NURSING NUR

College of Nursing

110 Exploring Nursing
Fall, Spring. 2(2-0)
Introduction to the bio-psycho-social conceptual model of persons in relation to nursing and health. Core concepts and theoretical foundations that frame the art and science of nursing. Development of the profession from inception into contemporary practice and its relationship to the U.S. healthcare system.