ANATOMY (ANAT)

ANAT 1000 - Basic Human Anatomy
Credit(s): 3 Credits
Gross and microscopic structure of human body; emphasis on anatomical concepts, terminology, and correlation of structure and function.

Restrictions:
Enrollment limited to students in the Doisy College Health Sciences or School of Nursing colleges.

ANAT 1005 - Basic Human Anatomy
Credit(s): 3 Credits
Gross and microscopic structure of human body; emphasis on anatomical concepts, terminology, and correlation of structure and function.

Attributes: Prof. Studies Students Only

ANAT 4000 - Human Gross Anatomy
Credit(s): 6 Credits
This course is an in-depth and clinically oriented study of the structure and function of human body emphasizing anatomical concepts and relationships relevant to health professionals. The course instructional format consists of a combined attribute of lecture and laboratory sessions. Cadaver dissection is required.

Restrictions:
Enrollment limited to students with a major in Athletic Training, Exercise Science, Exercise Science, Occupational Sciences or Occupational Therapy.

Enrollment limited to students in the Doisy College Health Sciences college.

ANAT 4300 - AHP Neurosciences
Credit(s): 5 Credits

ANAT 4980 - Advanced Independent Study
Credit(s): 1-4 Credits (Repeatable for credit)

ANAT 5000 - Human Gross Anatomy
Credit(s): 8 Credits
Structure and function of human body; emphasis on anatomical relationships and concepts and their functional significance; dissection required. (Offered each Spring)

ANAT 5050 - Human Gross Anatomy
Credit(s): 6 Credits
This course is a highly in-depth and clinically oriented study of the structure of the human body emphasizing anatomical concepts and relationships relevant to physician assistants. The course instructional format consists of a combined attribute of lecture and laboratory sessions. Cadaver dissection is required. Must be enrolled in the Physician Assistant Program in Doisy College Health Sciences.

ANAT 5100 - Human Histology and Ultrastructure
Credit(s): 5 Credits
Microscopic anatomy of human body; emphasis on relationships between structure and function of tissues and organs. (Offered every Fall semester.)

ANAT 5200 - Human Embryology
Credit(s): 2 Credits
Prenatal human development; emphasis on correlation of normal development with development of common congenital malformations. (Offered each Fall.)

ANAT 5300 - Human Systems Neurobiology
Credit(s): 5 Credits
Structure and function of the human nervous system; emphasis on neuroanatomical relationships of functional systems and neurobiological concepts of brain mechanisms. (Offered every Spring semester.)

ANAT 5400 - Human Systems Physiology
Credit(s): 4 Credits
This course will be taken concurrently with the Human Histology and Ultrastructures course (ANAT-5100) as part of the curriculum requirements for a Certificate in anatomical and Physiological Sciences. Physiology lectures will correlate with lectures and labs in ANAT 5100 which together will emphasize structure and function of cells, tissues and organ systems. Physiological principles and mechanisms will be stressed.

ANAT 5440 - Basic Research Techniques
Credit(s): 2 Credits
Fundamental techniques and instrumentation; emphasis on principles underlying preparation of material for histological, histochemical and ultrastructural examination and interpretation of results.

ANAT 5500 - Advanced Dissections in Human Anatomy
Credit(s): 1-3 Credits
This course will serve as an opportunity for students to develop advanced dissection and presentation skills as they perform prosections of human cadavers to ongoing medical, graduate and allied health anatomy courses. Students will perform regional dissections and presentations, under the guidance of anatomy faculty, with emphasis on clinical applications of gross anatomical structure and function. This course provides students with instruction and experience in teaching techniques in anatomy.

Prerequisite(s): ANAT 5000; ANAT 5100; ANAT 5200; ANAT 5300

ANAT 5570 - Intro to Anatomical Research
Credit(s): 1 Credit
Exposure to research activities in department by rotation through faculty research laboratories. (Offered every semester.)

ANAT 5590 - Special Study for Exams
Credit(s): 0 Credits (Repeatable for credit)

ANAT 5950 - Master's Project
Credit(s): 0-4 Credits (Repeatable for credit)

ANAT 5960 - Research Topics
Credit(s): 1-3 Credits

ANAT 5970 - Research Topics
Credit(s): 1-3 Credits

ANAT 5980 - Graduate Reading
Credit(s): 1-3 Credits

ANAT 5981 - Human Anat Independent Study
Credit(s): 1-4 Credits (Repeatable for credit)

ANAT 5990 - Thesis Research
Credit(s): 0-6 Credits (Repeatable for credit)

ANAT 6300 - Adv. Systems in Neurobiology
Credit(s): 1 Credit
This course to be taken concurrently with the Human Systems Neurobiology course. Lectures and moderated discussions of assigned journal articles will consider in greater detail the topics presented in the Human Systems Neurobiology course. Offered every Spring semester.
ANAT 6320 - Developmental Neurobiology  
Credit(s): 2 Credits  
A presentation of the principles and concepts that underlie the development of the nervous system. Lectures and discussions of assigned journal articles will cover neurogenesis, neuronal differentiation, the formation of functional neural circuit and regressive phenomena during brain development. Offered occasionally.  
Prerequisite(s): ANAT 5300; ANAT 6300; ANAT 6340

ANAT 6340 - Cellular Neurobiology  
Credit(s): 4 Credits  
The basic concepts of nervous system function including neuronal structure and function, structure and function of neuroglia, physical-chemical properties of the resting neuron, electrophysiology of the active neuron, pharmacology and electrophysiology of the synapse, transmitter substances and receptors, and effector systems will be presented in this course. Offered every Fall semester.

ANAT 6370 - Chm Neuro of Basal Forebrain  
Credit(s): 2 Credits  
The organization of the mammalian basal forebrain, including the basal ganglia, in terms of the distribution within neurons and axon terminals of the classical and peptide neurotransmitter/neuromodulator candidates. Changes in organization that occur in neurological disorders will also be covered. Lectures and directed and independent readings will be featured. Offered every Spring semester.  
Prerequisite(s): ANAT 5300; ANAT 6340

ANAT 6400 - Introduction to Neuroscience Research I  
Credit(s): 2 Credits  
Exposure to research activities in department by rotation through faculty research laboratories. Offered every semester.

ANAT 6410 - Introduction to Neuroscience Research II  
Credit(s): 2 Credits  
Fundamental techniques and instrumentation used in neurobiological research; emphasis on principles underlying techniques and interpretation of results. Offered every spring semester.

ANAT 6500 - Somatic-Visceral Interactions  
Credit(s): 2 Credits  
This course offers a forum for discussions on the neural control of visceral function and its modulation by somatic stimuli. Some didactic lectures will be given but most of the course will require reading and discussion of assigned journal articles and the writing of a short exam. Offered every spring semester.  
Prerequisite(s): ANAT 5300; ANAT 6340

ANAT 6670 - Visual Neuroscience  
Credit(s): 2 Credits  
Overview of visual processing, from chemical mechanism of transduction by retinal photoreceptors to anatomical and physiological correlates of visual perception in cerebral cortex. Assigned readings on analysis of receptive field properties, mechanisms of dark and light adaptation, sensation of color and control of ocular reflexes. Human visual dysfunctions included. Offered every spring semester.  
Prerequisite(s): ANAT 5300

ANAT 6890 - Anatomy & Neurobiology Seminar  
Credit(s): 1 Credit  
Selected topics in anatomy. Attendance and participation required for all M.S.(R) and Ph.D. students. Offered every fall and spring semester.