

Human Functional Neuroanatomy (ANAT 160)

COURSE SYLLABUS

Spring Semester

Course Description - This course provides an introduction to the anatomy and function of the human nervous system. Emphasis will be on the gross structure and function of the cerebrum, brainstem and cranial nerves, and spinal cord and spinal nerves. Descriptions of alterations in normal anatomy through disease or injury will reinforce the significance of the anatomical structural/functional relationships. Lecture material will be supplemented with laboratory demonstrations of human brain material and radiological materials (MRI, etc.) in the Medical School Anatomy Lab.

Credit Hours: 3

Frequency of Offering: Spring semester of each academic year

First Offering: Spring 2008

Prerequisite: Introductory Biology for Science Majors or Non-science Majors

Lecture Contact Time/Hours: Two (2) 1-hour 15-minute lectures per week, scheduled Tuesdays and Thursdays

Method of Assessment: Three (3) written (multiple choice and short answer) exams each to comprise 1/3 of the total grade for the course

Faculty: Ronald C. Bohn, Ph.D., Associate Professor of Anatomy and Regenerative Biology (Course Director) - additional guest lecturers for selected topics and/or special lectures

Anatomy Specimen Labs: Periodic, voluntary attendance in the Medical School Anatomy Lab where Anatomy faculty will demonstrate relevant anatomy of human brain specimens

Textbook: Neuroanatomy: An Illustrated Colour Text. A.R. Crossman and D. Neary. Churchill Livingstone. 170 pp.

Lecture Topics

1. Course introduction: Introduction to the human nervous system and neuroanatomical terminology
2. Neurocytology: neurons and glia
3. Introduction to structure of the CNS: External Anatomy
4. Introduction to structure of the CNS: Internal Anatomy
5. Spinal cord I: general anatomy
6. Spinal cord II: spinal nerves and reflexes
7. Spinal cord III: Overview of sensory systems
8. Spinal cord IV: Overview of motor systems
9. Spinal cord injury case study: Brown-Sequard syndrome
10. Lab
11. Meninges
12. Ventricular System
13. Introduction to the Brainstem
14. Cranial Nerves IX - X

15. Cranial Nerves XI - XII
16. Cranial Nerves V, VII
17. Cranial Nerves III, IV, VI
18. Cranial Nerve II - Visual system
19. Cranial Nerve VIII - Auditory System
20. Cranial Nerve VIII Vestibular system
21. Limbic system
22. Basal ganglia and cerebellum
23. Cerebral cortical structure
24. Cerebral cortical functional areas
25. Blood supply of the CNS/stroke syndromes
26. Neural Development