

Syllabus

- Neurons
- Looking at Neurons
- Neuronal connections - Synapses
- Glia
- Blood-Brain Barrier
- Techniques in Neuroanatomy
- A Simple Nervous System: Invertebrate
- Organisation of the mammalian nervous system
- Peripheral nervous system
- Development of the brain
- Brain Maps
- Sensory pathways I: general organisation
- Sensory pathways II: details of visual system
- Motor pathways I: general organisation
- Motor pathways II: details of emotional system
- Motor pathways III: demonstration of emotional systems
- Autonomic Nervous System
- Language and the lateralization of the brain
- Higher-Order Function: Memory
- Aging Brain

Recommended Reading

Textbooks:

- Kiernan, Barr's: The Human Nervous System. (1998)
- Bear et al 2001: Neuroscience - Exploring the Brain, Williams & Wilkes, 2nd edition.

Author: Karen Cullen , October 2005

School of Medical Sciences

Anatomy & Histology

For more information

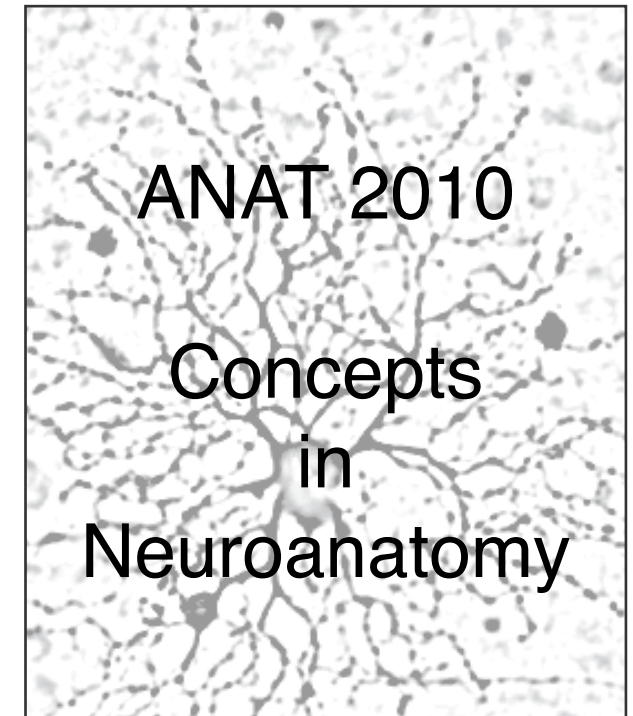
Anatomy & Histology

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The University of Sydney



Unit Of Study

Students are introduced to the structure and organisation of the central and peripheral nervous system. The course begins with an exploration into the make-up of the individual cells, followed by an examination of the different regions of the nervous system. A final theme of the course touches on the organisation of various systems (sensory and motor), together with aspects of higher-order function (memory). In essence, the course covers general concepts of organisation, structure and function of the brain and its different areas. The practicals offer students the unique opportunity to examine specimens in the Anatomy labs and museum. This course will be of considerable interest to students studying science and related disciplines, as well as those wishing to pursue further study in Neuroscience at senior levels.

- This UoS is recommended for students undertaking the BSc (Neuroscience)
- Students planning to enrol in NEUR3001 - NEUR3004 are strongly advised to complete ANAT2010

Prerequisites

BIOL (1001 or 1901) and one of: BIOL (1002 or 1902 or 1003 or 1903) or PSYC (1001 and 1002).

Learning Goals & Outcomes

LEARNING GOALS:

This unit of study aims to introduce students to the characteristics and essential structure of the cells which comprise the central nervous system (CNS).

Based on an understanding of the organization of its constituents, students will also be introduced to the principles of brain organization, with specific reference to the evolution of the 'higher' centres in primates.

LEARNING OUTCOMES:

At the end of the unit of study students should:

- understand the differences between and interdependence of neurons and glia.
- recognize the differences between sensory neurons, motor neurons, and interneurons in the brain and spinal cord.
- understand the significance of excitatory and inhibitory functions of neurons.
- understand the essential features of sensory and motor pathways in the brain and spinal cord.
- understand the significance of the evolution of cerebral cortex in primates and the consequences of cortical degeneration.

Timetable

N.B. - Please check online timetable for latest details as times & locations vary

Tuesday; 8-9am [L]
To be announced [T]

Thursday; 8-9am [L]
To be announced [T]

Lectures = [L] / Tutorials = [T]

Class Location

Lectures: Check latest timetable

Weblabs: Held in the Anderson Stuart building, Eastern avenue, Main campus. Rooms will be announced

Anatomy labs: Groups meet in the Vesalian theatre, S432, Anderson Stuart building, Eastern Avenue, Main campus

Gown & Glove Policy

This course has a gown & glove policy for the tutorial classes. This course also recommends vaccinations. Please see the Anatomy website for details.