Functional Neuroanatomy, Neuroscience 1011/2011
Fall 2012

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Class: ***Class*** is held four times per week in L9 Clapp Hall: M-W-F from 10:00-10:50 AM plus an additional hour on Wednesday from 11:00-11:50 AM.

An ***optional recitation*** is offered by the Undergraduate Teaching Assistants on Thursdays from 4:30-5:30 in Crawford 169.

Optional ***exam reviews*** will be held usually two nights before each exam. Please see CourseWeb for the detailed schedule.

Grading: Students are responsible for ***all*** material presented in **lectures**. Many exam questions come from the **handouts** that accompany each lecture, but additional questions come from the lectures themselves. There are a total of 5 non-cumulative **exams**, each worth 20% of the total grade. Four exams are administered during the scheduled class time and the fifth exam is given during finals week.

Students in **2011**: The 5 exams count for a total of 80% of your grade. The remaining 20% requires submission of a paper by the end of class, December 7th. Please see Dr. Sesack for further instructions.

Recommended
Textbook: Brodal, *The Central Nervous System, Structure and Function, 4th ed*

On Reserve: Brodal, *The Central Nervous System, Structure and Function, 4th ed*
Kingsley, *Concise Text of Neuroscience*
Heimer, *The Human Brain and Spinal Cord*
Kandel, Schwartz, and Jessell, *Principles of Neural Science, 4th ed*
Netter, *Nervous System, Part I, Anatomy and Physiology*
Sundsten, *Interactive Brain Atlas*, CD-Rom for Windows and Mac

Internet Neuroanatomy Sites (*all were working on August 24th 2012)*

Action Potential Animation
http://bcs.whfreeman.com/thelifewire/content/chp44/4402s.swf
Action Potential Conduction Animation
http://www.blackwellpublishing.com/matthews/actionp.html
Blood Supply
http://www.csus.edu/indiv/m/mckeoughd/AanatomyRev/VascSys/Schematic/CerebAsSchematic.htm
Brain Facts
http://www.brainfacts.org
Comparative Mammalian Brain Collections
http://www.brainmuseum.org/index.html
Embryology, including neuroembryology
http://embryology.med.unsw.edu.au/
Harvard University Whole Brain Atlas
http://www.med.harvard.edu/AANLIB/home.html
The History of Neuroscience - Milestones in Research
http://faculty.washington.edu/chudler/hist.html
MedPix: Medical Image Database
http://rad.usuhs.edu/medpix/
Neuroanatomy and Pathology on the Internet
http://www.neuropat.dote.hu/
Neuroanatomy Tutorial
http://library.med.utah.edu/WebPath/HISTHTML/NEURANAT/NEURANCA.html

Neuron Wikipedia
http://en.wikipedia.org/wiki/Neuron
Neuroscience for Kids
http://faculty.washington.edu/chudler/neurok.html
Primary Visual Cortex
http://webvision.med.utah.edu/VisualCortex.html
Retinal Information Processing - Receptive Fields
http://www.sumanasinc.com/webcontent/animations/content/receptivefields.html
Synapse Web (electron microscopic and 3D rendering of cellular elements in the nervous system)
http://synapses.clm.utexas.edu/
University of Chicago Neuroanatomy Collection
http://neuroanatomy.bsd.uchicago.edu/

From Patty Reagan - needs to be purchased for full capacity
www.drawittoknowit.com

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Fall 2012 Schedule

Each block has 7 lectures, with some of the titles below counting as multiple lectures. Please note that new lectures started in the class just before an exam are usually not on that exam.

Dates with no lectures:

September 3rd	Labor Day
October 8th	Fall break (lecture given instead on Tuesday October 9th at 10:00)
October 15th	Society for Neuroscience meeting
November 19th	Thanksgiving recess
November 21st	Thanksgiving recess
November 23rd	Thanksgiving recess

Other important dates:

September 7th	Fall term add/drop period ends
October 26th	Fall term deadline for monitored withdrawal
December 13th	Final Exam, 10:00-11:50

Block 1

August 27th - September 12th
Exam Review on Sept 12th at 6:00-8:00 PM
EXAM 1 on September 14th at 10:00 AM
Chapters in Brodal: 1-4, 17
Neurocytology and Simple Circuits (2)
Methods for Studying the Nervous System
Neuroembryology
Gross Structure: Spinal Cord
Gross Structure: Brainstem
Gross Structure: Higher Centers

Block 2

September 12th - October 1st
Exam Review on October 1st at 6:00-8:00 PM
EXAM 2 on October 3rd at 10:00 AM (NOTE: Exam at 10:00, Lecture at 11:00)
Chapters in Brodal: 3, 5, 6, 8, 9
Gross Structure: Support and Circulation
Introduction to Sensory Systems, Somatosensory Receptors and Receptive Fields (2)
Ascending Somatosensory Pathways: Dorsal Column and Spinothalamic Tract (2)
Vestibular and Auditory Systems (guest lecture, Yates)(2)

Block 3
October 3rd - 22nd (NOTE: Monday Oct 8th class to be held on Tuesday Oct 9th)
Exam Review on October 22nd at 6:00-8:00 PM
EXAM 3 on October 24th at 10:00 AM (NOTE: Exam at 10:00, Lecture at 11:00)
Chapters in Brodal: 6, 7, 10-12
Visual System (3)
Olfactory System
Introduction to Motor Systems
Spinal Reflexes and Descending Brainstem Pathways (2)

Block 4
October 24th - November 9th
Exam Review on November 11th at 12:00-2:00 PM
EXAM 4 on November 12th at 10:00 AM
Chapters in Brodal: 12-15, 17, 18
Eye Movements
Descending Pathways for Voluntary Movement
Basal Ganglia (1.5)
Cerebellum (1.5)
Autonomic Nervous System (2)

Block 5
November 14th - December 7th
Exam Review on December 11th at 6:00-8:00 PM
EXAM 5 (Final) on December 13th at 10:00-11:50
Chapters in Brodal: 4, 16, 19-21
Hypothalamus
Reticular Formation and Regulation of Conscious States
Limbic Circuitry
Hippocampus
Cerebral Cortex
Cognitive and Neurodegenerative Disorders
Plasticity and Regeneration in the Nervous System