

SYLLABUS for FUNCTIONAL NEUROANATOMY, Spring 2018

NROSCI 1011 – 1030 (27666), SPRING TERM, 2018

MWF 9:00-9:50 AM, 232 Cathedral of Learning

Instructor: Erika E. Fanselow, Ph.D., Department of NeuroscienceOffice: 449 Crawford Hall (enter through 446 Crawford)Office phone: 412-383-6051Email: fanselow@pitt.eduOffice hours: Thursdays: 2:30-3:30, Fridays: 10:15-11:15, or by appointmentGraduate teaching assistants (email to arrange an appointment):Kathryn Friason (fkf2@pitt.edu)Susie Sonnenschein (sfs29@pitt.edu)Undergraduate teaching assistants (email to arrange an appointment):Blake Boehm (bab150@pitt.edu)Alex Cooper (amc255@pitt.edu)Sarah Fribance (saf89@pitt.edu)Serena Kantz (sfk16@pitt.edu)Alex Kunisky (akk58@pitt.edu)Daniella Ortiz (dmo27@pitt.edu)**Course description**

Functional Neuroanatomy covers the basic structure of the central nervous system, from spinal cord to cerebral cortex. The major sensory, motor, and integrative neural systems of the human brain are discussed. Based on an understanding of normal neural connections and brain function, the anatomical and physiological bases for multiple neurological disorders are also explored.

Course materials

There is no required textbook for this course. However, I do recommend Brodal, P., *The Central Nervous System Structure and Function*, 4th ed.

Books on reserve in Langley Library:

- 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*

You are responsible for all material presented during class, in the handouts, and on CourseWeb. Additionally, during each block a case study will be introduced, for which you will answer several questions on CourseWeb. For blocks 2-4, a research paper will be posted for you to read. The exam for blocks 2-4 will include questions about the research paper for that block.

CourseWeb will be used to post course announcements, as needed. Important announcements may also be sent to your university email account (name@pitt.edu). *Announcements, information, course changes, and documents posted to CourseWeb are REQUIRED content for the course (unless you are told otherwise), so please check the CourseWeb page often.* Any official email communications regarding this course will be delivered to students' University of Pittsburgh email address, in accordance with the University of Pittsburgh email communication policy: <http://www.bc.pitt.edu/policies/policy/09/09-10-01.html>. Students who wish to forward their Pitt email to another account do so at their own risk.

Course prerequisites:

Either **NROSCI 1000** (*Introduction to Neuroscience*) or **NROSCI 1003** (*UHC Introduction to Neuroscience*) is a prerequisite for this course. You must have received a minimum grade of a 'B-' in either of these courses and be planning to get a BS or MN in Neuroscience.

Course Grades

There are four blocks for the course (see schedule at end of syllabus). Your semester grade will be based on:

- 1) One exam per block (4 exams total; each exam contributes to 20% of your course grade)
- 2) One quiz per block (4 quizzes total; each quiz contributes to 4% of your course grade)
- 3) Questions related to one case study (4 case studies total; answers for each case study contribute to 1% of your course grade)

Course grades will be determined based on the following ranges:

A+	97-100%	B+	87-89%	C+	77-79%	D+	67-69%	F	< 60%
A	93-96%	B	83-86%	C	73-76%	D	63-66%		
A-	90-92%	B-	80-82%	C-	70-72%	D-	60-62%		

Please note: no exams, quizzes, or case study questions may be dropped.

Exams

There will be four exams during the course, all of which will be taken during class periods (see course schedule below for exam dates). The format for these exams will be multiple choice, true/false, drawings, and short-answer questions, the content of which will be based on the material in the block for that exam. The exams will not be cumulative, *per se*, except for the fact that course material will, by necessity, carry over from block to block, to a certain degree. There will be no final exam for this course.

Quizzes

There will be a total of four on-line quizzes. The purpose of the quizzes is to encourage you to study and become familiar with the material and the formats of questions that will be on the exams. Each quiz is worth 4% of your grade, and no quizzes may be dropped. The quizzes will be available on CourseWeb by 7:00 PM on the dates indicated on the course schedule at the end of the syllabus, and they are **due by 7:00 PM** several days later, as indicated on the course schedule. Students must submit their answers on CourseWeb **BEFORE 7:00 pm** on the indicated due dates to get points for correct answers. A given quiz will be closed (*i.e.* unavailable) at 7:00 PM on the day it is due, and will not be available thereafter.

Case studies

During each block, a case study will be introduced in class that complements the material covered in that block. The purpose of these case studies is to augment your understanding of some of the material and to give a context for it. Several questions about the case study will be posted on CourseWeb, and answers to these questions will be due by 7:00 PM on the dates indicated on the course schedule (though note that the dates case studies are presented and the questions are due are subject to change, according to the pacing of the material during each block).

Scientific literature readings

For blocks 2-4, a paper from the scientific literature will be posted on CourseWeb. These papers will introduce you to research topics we will touch on in class, and will give you a view onto recent research on these topics. You are responsible for reading these papers and there will be basic questions from each paper on the exam for the relevant block.

Exams, quizzes, and case study questions must be taken/completed on schedule

You are expected to take each examination on its scheduled date, at its scheduled time (see schedule at the end of the syllabus). If unanticipated circumstances (*e.g.*, illness, death in the family) make it impossible for you to take an examination on its scheduled date and time, **you must** contact Dr. Fanselow **BEFORE** the scheduled date and time to make other arrangements. It is preferable that you speak with me directly but, at a minimum, you must send me an email (fanselow@pitt.edu) and/or leave a message on my office phone (412-383-6051) before the exam. Also, the circumstances that prevent you from being present must be documented (*e.g.*, a letter from physician, obituary). I understand that some of you may need to miss an exam due to interviews for graduate, medical, or other professional schools. If this is the case, you should make arrangements with me at least one week prior to the exam so we can find a time for you to take it, either before you leave or after you return. You will receive a zero for the exam if you do not follow these policies. **There will be no exceptions.**

Similarly, the quizzes and online case study questions must be completed by the due dates and times indicated on the course schedule at the end of the syllabus. If you experience technical difficulties (*e.g.* due to network issues), you must contact me via email BEFORE the due date/time, and send a screenshot (including date and time) showing that you were in the process of completing the quiz or case study questions when the problem occurred. ***Please note*** that exams may be reviewed by students only up to the time the next exam is given. After that time, previous exams will no longer be available for students to review.

Office hours and review sessions

Dr. Fanselow's office hours will be held twice weekly, from 2:30-3:30 on Thursdays and from 10:15-11:15 on Fridays, or by appointment. Prior to exams, I may be able to schedule extra office hours sessions, but this will be subject to schedules and cannot be guaranteed. Email TA's directly to set up office hours with them. TA-led pre-exam review sessions will be held a few days before each exam. Additionally, TAs will schedule a session after exam grades are returned when you may review your exam. If you are not able to review your exam during this time, please contact one of the graduate TAs to schedule a time to do so.

Academic policies

Academic Integrity:

Students in this course will be expected to comply with the [University of Pittsburgh's Policy on Academic Integrity](#). Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators.

Prohibition against electronic devices during exams:

All electronic devices capable of sending, receiving, or storing information are expressly forbidden from use during exams in this class. This includes cell phones, text messaging devices, iPods, iPads, PDAs, smart watches, and similar.

Disability Services:

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and [Disability Resources and Services \(DRS\)](#), 140 William Pitt Union, (412) 648-7890, drsrecep@pitt.edu, (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Accessibility:

Blackboard is ADA Compliant and has fully implemented the final accessibility standards for electronic and information technology covered by Section 508 of the Rehabilitation Act Amendments of 1998. Please note that, due to the flexibility provided in this product, it is possible for some material to inadvertently fall outside of these guidelines.

Copyright Notice:

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Statement on Classroom Recording and Photographs:

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use. This includes audio recordings, video recordings, photographs, and similar.

COURSE SCHEDULE for FUNCTIONAL NEUROANATOMY, Spring 2018**BLOCK 1 topics:**

- Introductory material
- Methods for studying neuroanatomy
- Neuroembryology
- Spinal cord gross anatomy
- Brainstem gross anatomy
- Meninges and vascular system
- Higher center gross anatomy

QUIZ 1: posted on Friday, 1/19, due by 7:00 PM on Wednesday, 1/24

BLOCK 1 CASE STUDY: posted Monday, 1/22, due by 7:00 PM on Thursday, 1/25

EXAM 1: Wednesday, 1/31

BLOCK 2 topics:

- Vision
- Somatosensory system
- Motor system
- Olfaction

BLOCK 2 CASE STUDY: posted Wednesday, 2/7, due by 7:00 PM on Sunday, 2/11

QUIZ 2: posted on Wednesday, 2/14, due by 7:00 PM on Monday, 2/19

BLOCK 2 PAPER: posted on Monday, 2/19

EXAM 2: Monday, 2/26

BLOCK 3 topics:

- Basal ganglia
- Cerebellum
- Auditory system
- Vestibular system
- Eye movements

BLOCK 3 CASE STUDY: posted Monday, 3/12, due by 7:00 PM on Thursday, 3/15

QUIZ 3: posted on Friday, 3/16, due by 7:00 PM on Wednesday, 3/21

BLOCK 3 PAPER: posted on Monday, 3/19

EXAM 3: Monday, 3/26

BLOCK 4 topics:

- Autonomic nervous system
- Hypothalamus
- Reticular formation
- Limbic system
- Hippocampus
- Neocortex

BLOCK 4 CASE STUDY: posted Wednesday, 4/4, due by 7:00 PM on Sunday, 4/8

QUIZ 4: posted on Friday, 4/6 due by 7:00 PM on Wednesday, 4/11

BLOCK 4 PAPER: posted Friday, 4/13

EXAM 4: Friday, 4/20