

Neuroanatomy BIPN 160, fall 2018

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Office Hours: Wed 2-3pm & Fri 4-5pm

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Office Hours: Fri 2-3pm in BSB 2205

Class Meeting Days: T & Th

Class Meeting Hours: 11am-12:30pm

Class Location: Pepper Canyon Hall, room 121

Study sections: Friday 11-11:50am and 3:00-3:50pm in York 4050A

Electronic communication:

Logistical emails can be sent to Dr. Root, but do not email questions about course content – those emails will be ignored. Instead, please ask questions during office hours, study sessions or email to the IAs. Please try to limit email questions because they can easily become an endless back and forth. Lecture slides will be available on Triton Ed soon after lectures.

Course goals:

The goal of the course is to give students a fundamental understanding of the anatomy of the human brain and peripheral nervous system as it relates to neural circuits, behavior, perception and cognition. The course will include historical approaches and findings as well as modern techniques and questions. Students will be able to anatomically identify key areas in human brain involved in specific functions, and the course will explore the evidence that implies the function of key brain areas.

Learning objectives:

1. Identify anatomy and recall function of many brain areas and peripheral nerves.
2. Identify key experiments that allow us to assign functions to brain areas.
3. Describe and critique primary literature, identifying key experiments.
4. Implement techniques and tools to dissect neuroanatomy.
5. Construct knowledge from evidence

Learning Materials

This is a new course and an ideal textbook has not been identified yet. Official Textbook (Not required): The Brain: An introduction to functional Neuroanatomy, by Watson, Kirkcaldie and Paxinos. The book does not cover all course material and may have limited use. **Referred to below as W.**

Additional books (Not required): 1) Human Neuroanatomy: An introduction, by Augustine.

Referred to below as A.

2) The Human Brain: An introduction to its functional anatomy, by Nolte. **Referred to below as N.**

These books are higher-level books with details beyond this course, but lectures will draw material from them (especially #2). Both are available on reserve in the library.

Lecture slides will be made available on Triton Ed, and podcasts will be available at podcast.ucsd.edu.

Course scope and tentative outline:

Suggested readings:

9/27	Introduction, Neurons and Glia, basic anatomy	W-Ch1
10/2	Techniques to study functional neuroanatomy	W--Ch11
10/4	Spinal cord and periphery	W-p44-47, 52-53; N-Ch10
10/9	Cranial nerves	W-p47-51; N-Ch12
10/11	Brainstem	N-Ch11
10/16	Thalamus	N-Ch16; A-Ch14
10/18	Exam 1	
10/23	Sensory cortex part 1	W-Ch6
10/26	<i>Deadline to drop class without a W</i>	
10/26	Sensory cortex part 2	
10/30	Movement control: basal ganglion, and motor cortex	N-Ch18&19
11/1	Cerebellum	N-Ch20; A-Ch16
11/6	Hippocampus: Learning and memory	W-p111-116
11/8	Exam 2	
11/9	<i>Deadline to drop with W and not grade</i>	
11/13	Ventral striatum and amygdala: Hedonics part 1	W-p121-124; N-p594-605
11/15	Ventral striatum and amygdala: Hedonics part 2	A-Ch18; W-p123-124
11/20	Hypothalamus: Homeostasis and drives	N-p580-594
11/22	Thanksgiving, no class	
11/27	Brain areas for sleep and arousal	N-p571-576
11/29	Frontal cortices and higher order functions	W-Ch8
12/4	Comparative neuroanatomy and evolution	W-Ch2
12/6	Blood supply for the brain	N-Ch6; A-Ch22&23
12/12	Final exam, location to TBA.	

Basis for Final Grade There will be two exams during normal class time worth 100 points each and one comprehensive final exam worth 150 points, for total of 350 points. Exams will be based off of lecture material and will contain multiple choice and short answer questions. Attendance at study sections above 90% will earn 10 points in extra credit, which will result in a 1/3 letter grade bump (e.g., B+ to A-, or A- to A). The grading scale below will be used, however, grades may be curved to raise the average grade if necessary.

Grading Scale.

90 – 100%	A
80 – 89%	B
70 – 79%	C
60 – 69%	D
0 – 59%	F

Plus and minus signs will be added for grades that are 3 percentage points of the nearest cutoff.

Study sections: Sections are voluntary and begin the second week. You are free to attend either section and go between them as needed. Lecture material will be reviewed, questions answered, and problem sets discussed. Extra credit will be given for above 90% attendance.

Missed exams: Do not miss exams. You are expected to take the exams when they are scheduled during normal class time. Make-up exams can only be arranged in extreme situations at the discretion of the instructor and may carry a 10% penalty.

Grading objections and regrades: If you have an objection to a **particular exam question**, you have 24 hours from the end of the exam to raise your concerns. Objections to exam questions must be made in person with a prepared, written argument of why that question was unfair. A decision will then be made whether not to grade that question for the entire class.

If you have objections to the grading of a question on **your** exam, you can e-mail a written argument to the head IA. **The e-mail has to be received within a week after you receive the exam. You then have to meet with the IA during her/his next office hours.** If you and the IA do not agree, you can have the IA forward your petition and exam to the instructor. Note that a regrade by the instructor may result in a gain or loss of points; regrading may not be limited to the question you petitioned about. Graded exams will be randomly copied before being returned. If you are found altering your answer to an exam question and resubmitting that question for a regrade, you will be given a zero on the entire exam and reported for academic dishonesty.

Violations of Academic Integrity: Violations include, but are not limited to:

- Cheating: Intentionally using or attempting to use unauthorized materials, information, notes, study aids, or other devices in any academic exercise.
- Fabrication and Falsification: Intentional and unauthorized alteration or invention of any information or citation in an academic exercise. Falsification is a matter of inventing or counterfeiting information for use in any academic exercise.
- Plagiarism: Intentionally or knowingly presenting the work of another as one's own (i.e., without proper acknowledgment of the source).
- Abuse of Academic Materials: Intentionally or knowingly destroying, stealing, or making inaccessible library or other academic resource materials.
- Complicity in Academic Dishonesty: Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.