Neuroanatomy BIPN 160 & BGGN254, Winter 2021

Instructor: Cory Root, Ph.D.
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Phone: 858-246-2241
Office Location: 3122A Pacific Hall
Office Hours: Wed 2-3pm & Fri 2-3pm
Zoom link for office hours will be the same as for lecture.

Instructional Assistants (IA)	**office hours**:
Meenakshi Pandiarajan, mpandiar@ucsd.edu	Thu 2:30-3:30pm
Lilit Vardanyan, lvardany@ucsd.edu	Mon 7-8pm
Michael Colwin, mcolwin@ucsd.edu	Tue 10-11am
Nathan Pongsamart, npongsam@ucsd.edu	Wed 10-11am
Jeremy Stark, jpstark@ucsd.edu	Fri 1-2pm
Zoom links will be provided in Canvas	

Class Meeting Days: T & Th
Class Meeting Hours: 3:30-4:50pm
Class Location: Remote, zoom link in canvas

Study sections: Tuesdays: 12-12:50pm (Jeremy), 1-1:50pm (Meenakshi), 2-2:50 pm (Nathan).
Fridays: 9-9:50 am (Lilit), 10-10:50am (Michael), 11-11:50 am (Meenakshi).
All sections are remote at scheduled time.
No section the first week.

Electronic communication:
If you email Dr. Root, please put BIPN160 as the subject. Logistical emails can be sent to Dr. Root, but do not email questions about course content – those emails may be ignored. Instead, please ask questions during office hours, study sessions or Canvas Discussion boards. Lecture slides will be available on Canvas before lectures and the lecture will be recorded and available.

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. We will also examine research from other animals. 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 the human brain involved in specifics 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 key brain areas and peripheral nerves.
2. Identify key experiments that allow us to assign functions to brain areas.
3. Implement techniques and tools to dissect neuroanatomy.
4. Construct knowledge from evidence

Learning Materials
A textbook is not required or recommended. There will be reading posted on Canvas that are taken for a few sources, including:

1) The Human Brain: An introduction to its functional anatomy, by Nolte.
2) The Brain: An introduction to functional Neuroanatomy, by Watson, Kirkcaldie and Paxinos.

Course scope and outline:

1/5   Introduction, Neurons and Glia, basic anatomy
1/7   Techniques to study neuroanatomy and function

1/12   Development of the spinal cord and brain
1/14   Spinal cord and periphery

1/19   Cranial nerves
1/21   Brainstem, Thalamus

1/26   **Exam 1**
1/28   Sensory cortex, auditory system

2/12   Deadline to drop class with a W

2/2   Visual system
2/4   Chemosensory systems

2/9   **Exam 2**
2/11   Hedonics: Ventral striatum, amygdala, and others:

2/16   Hypothalamus: Homeostasis and drives
2/18   Brain areas for sleep and arousal

2/23   **Exam 3**
2/25   Movement control: basal ganglion, and motor cortex

3/2   Cerebellum
3/4   Hippocampus: Learning and memory

3/9   Frontal cortices and higher order functions
3/11   Ventricles and Blood supply

3/13-3/20 Finals week. Time and location TBD.

All exams will be open to the use of notes, but be prepared because you will not have enough time to rely only on your notes. **Do not communicate with other students during exams**.

Problem sets. Problem sets are part of your grade. There will be 7 problem sets, worth 10 points each. They will not be graded, but you get 10 points for turning it in or zero for not.

Exams. There will be three exams worth 100 points and a comprehensive final worth 200 points. Your lowest exam grade will be dropped, not including the final which is required. Exams will be based off of lecture material and will contain multiple choice and short answer questions.

Study sections: Sections are voluntary and begin the second week. You are free to attend any section and go between them as needed. Lecture material will be reviewed, questions answered, and problem sets discussed. Extra credit will be given for good attendance. Missing no more than one) will earn extra credit, which will result in a 1/3 letter grade bump (e.g., B+ to A-, or A- to A).

Basis for Final Grade. There will be three exams during normal class time worth 100 points each and one comprehensive final exam worth 200 points. Therefore, the grade will be based on 420 points: 200 (exams) + 150(final) + 70(P.S.) = 420.

The grading scale below will be used, however, grades will likely be curved to raise the average grade if necessary. The average grade target is a B+.

Tentative 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. The grade of A+ will be reserved for the top ~5% of students

Students enrolled in BGGN254 will have two additional take home exams for each of the two midterms. The take home exams will be short essay format and you are welcome to use your notes. Each one will be worth 50 points. Therefore, you will have a total of 560, rather than 460, points for the course.

Missed exams: Do not miss exams. You are expected to take the exams when they are scheduled during normal class time. Make-up exams will only be arranged in extreme situations. Asynchronous exams may be available for students in other time zones, but will be decided on a case by case basis.

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 by email, with at written argument of why that question was unfair. A decision will then be made whether to exclude that question for the entire class.
        If you have objections to the grading of a question on **your** exam, you can discuss with Dr. Root during office hours or by email. **Regrades will only be available within a week after you receive the exam grade.** Note that a regrade 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 caught altering your answer to an exam

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.