We will notify you immediately if changes are made to this plan

MCB129: *The Brain: Development, Plasticity and Disease*

Harvard College/GSAS: 124817
Term: 2024 Fall / Full Term
Meeting Time: Monday & Wednesday 10:30â€“11:45 AM
Recommended Prep: LS1A, LS1B

Course Instructor

Sam Kunes
kunes@fas.harvard.edu
Office Hours: TBA

Teaching Fellows

Ali Pete
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Office Hours: TBA

Devorah Kranz
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Office Hours: TBA

Dr. Alisa White
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Office Hours: TBA

Sections

All sections meet on Thursdays in BioLabs 1087

Section I: Thursday Noon-1 PM

Section II: Thursday 4:30-5:30 PM

Section III: Thursday 6:00â€“7:00 PM Section

Course Description:

- This course focuses on our understanding of how the brain develops, adapts to its environment, and enters pathological decline. Topics include cell birth, death and identity; axon guidance and synaptic specificity, and postnatal neurogenesis. Course assignments emphasize critical evaluation of the literature, experimental design, and scientific writing.

Weekly Topics: Lecture, Reading, Discussion

1. Cell Lineage and Cell Fate
2. What Makes Neurons Different
Part A:
Part B:
3. The Human Cortex
4. Wiring Up The Nervous System
5. Refinement & Synapses
6. Mutation & Autism
7. Building a Better Brain

Course Structure

Each week, instructors will assign reading from the primary literature and background reading from textbook and review article sources. Students are expected to read assigned articles prior to attending class.

The class will meet twice per week for lectures given by instructors and interactive problem-solving workshops led by TFs/TAs. In addition, each student is assigned to a weekly discussion section to discuss the course material and reading assignments. In case of illness, emergency, or other planned absence, please inform your TF/TA via email as soon as possible.

At the end of each week, students will submit a written homework assignment in response to instructor prompts regarding a paper from that module. Assignments may range from problem sets to short essays. Late written assignments will be accepted up to 2 days after the original due date. The lowest written assignment grade is automatically dropped.

In-class Exams

Two exams, each worth 25% of your final grade, scheduled for

Wednesday March 6th

Wednesday April 24th

Grades

In-class Workshop Participation*	15%
Homework Assignments	50%
Midterm Essay	20%
Final Poster Presentation	25%
Total	*100%*

*We understand that you have complex schedules. Therefore, you can miss up to 3 workshops with no consequence to your Workshop Participation grade. Note: missing many workshops could affect your other grades.

Textbooks

You do not need to purchase a textbook. All reading material will be made available on the course website. Textbooks for the course will be available online through Harvard Libraries. We will list the textbooks here as we use them:

***1. The Biology of Cancer* (Weinberg)**. An online version is available from the Harvard Libraries for up to 3 hours at a time. Physical copies are also available upon request from the Harvard libraries.

2. *Molecular Biology of the Cell* (Alberts). The 6th edition is available online from Harvard Libraries for up to 3 hours at a time.

Accommodations

Harvard University values inclusive excellence and providing equal educational opportunities for all students. Our goal is to remove barriers for disabled students related to inaccessible elements of instruction or design in this course. If reasonable accommodations are necessary to provide access, please contact the Disability Access Office (DAO). Accommodations do not alter fundamental requirements of the course and are not retroactive. Students should request accommodations as early as possible, since they may take time to implement. Students should notify DAO at any time during the semester if adjustments to their communicated accommodation plan are needed.