

CORE-UA 306 Life Science: Brain and Behavior

Fall 2021

Instructor: Professor Wendy Suzuki (ws21@nyu.edu; <http://www.wendysuzuki.com>)

Suzuki Office Hours: M: 2-3p.m.; W: 2:30 to 3:30 p.m. (Except no office hour 11/17- it will be re-scheduled). Also appointment with Prof. Suzuki available other times – just e-mail.

TA's

- Wendy Liu (Wendy.Liu2@nyulangone.org)
- Muhaned Mohamed (Muhaned.Mohamed@nyulangone.org)TBA
- Mihaly (Mishi) Voroslakos (Mihaly.Voroslakos@nyulangone.org)

TA Office Hours: TBD

Course/Lecture Meeting time: M/W 11 to 12:15 p.m. EST

Location: Silver 207

Zoom Links, Zoom Recordings and Powerpoint presentations: Available on Brightspace except for Lecture #1 when the Zoom Recording failed.

In Person Lab Sessions and TAs:

R 12:30- 1:45 p.m. TA Wendy Liu

R 2:00- 3:15 p.m. TA Wendy Liu

R 3:30- 4:45 p.m. TA Muhaned Mohamed

R 4:55- 6:10 p.m. TA Muhaned Mohamed

F 9:30-10:45 a.m. TA Mihaly (Mishi) Voroslakos

F 11 -12:15 p.m. Mihaly (Mishi) Voroslakos

Brain and Behavior Course Objectives Fall 2021

The goal of this course is to provide an overview of the neurobiological study of the brain in the context of an overarching theme that tends to change from year to year. The specific theme that we will tackle during this semester both experimentally and experientially is: **enhancing mental health through the principles of brain plasticity**. Brain plasticity refers to the ability of the human brain to change (sometimes dramatically) in response to the environment in which we live. Those changes can be positive and help build stronger brain connections and functions or they can be negative and weaken synapses and impair function. While learning the basic principles of biological organization of the brain, we will also experiment with a range of brain-enhancing interventions that have been shown to improve and enhance mental health. All students will all participate in an in-class experiment and design an experiment/special project of your own to present in lab at the end of the semester. These experiments and special projects are designed to make the study of the brain real and interactive and also possibly improve your mood and decrease levels of depression and anxiety along the way. My main objective is to give you a strong working knowledge of the brain, and teach you how to use neuroscience to help improve and enrich your college experience.

Required Text: [Biological Psychology Behavioral Neuroscience](#) 9th e-Edition,

AND [Life Science Brain and Behavior Core -JA 306 Lab Manual](#)

Instructions for purchasing the e-book from the publisher:

Congratulations, your course is participating in the Follett Access program. To promote affordability, NYU has partnered with the NYU Bookstore to offer you this program to give you substantial savings on your course materials.

The book, *Behavioral Neuroscience* by Breedlove will be delivered to you digitally. The **cost of the book is \$39.50**, which will be added as a “book charge” to your bursar bill, this is a savings of \$150.49 over the publisher’s price.

To ACCESS your book:

- A BryteWave (RedShelf) account will be created using your school email address
- An email will be sent to you with a link to your shelf.
- This emailed link will take you to your BryteWave Discover Shelf account where you can log in using your school email address and find your preloaded material on your Shelf.
- Additional support for email can be found here: **customerservice@brytewave.com**

Should you choose to remove yourself from the program and find your course materials elsewhere, you must login [here to the student portal](#) and opt out of having the course materials provided to you by **September 17th**.

Information you should know:

- Your username is your school email address.
- If you have opted out of a course, you can opt back in.

Happy studying and best of luck in class!

Questions? Contact us at the bookstore:

email - wsq.text@nyu.edu

phone - 212-998-4656

Exams: 2 midterms and 1 comprehensive final

NO MAKE UP EXAMS – THE FINAL EXAM COUNTS MORE IF YOU MISS ONE OR BOTH

MIDTERMS FOR ANY REASON.

Grading: 20% Midterm 1, 20% Midterm 2, 35% Final Exam, 25% labs (including special research project)

Final Exam: Course info posted on Brightspace

Attendance and Participation Attendance in lecture and lab is strongly encouraged

Brain and Behavior Syllabus
Fall 2021
Lectures: M/W (11 to 12:15 p.m. EST)
Instructor: Prof. Wendy Suzuki

DAY	Date	
R/F	9/2 & 9/3	No Lab this week
W	8-Sep	Lecture 1: Introduction to Brain and Behavior <i>No Readings</i>
R/F	9/9 & 9/10	No lab this week
M	Setp 13	Lecture 2: Organization of the Brain and Nervous System <i>Reading: Chapter 2</i>
W	Setp 15	Lecture 3: Neurons and Glia <i>Reading Chapter 2</i>
ANATOMY AND BRAIN PLASTICITY		
R/F	9/16 & 9/17	LAB 2: Sheep Brain Dissection
M	20-Sep	Lecture 4: Neural Communication: Electrical Properties <i>Reading: Chapter 3</i>
W	22-Sep	Lecture 5: Neural Communication: Chem. Properties and Transmission <i>Reading: Chapter 3</i>
R/F	9/23 & 9/24	LAB 3: Build your Own Brain
M	27-Sep	Lecture 6: Neuronal Communication: Neurotransmitter Systems <i>Readings: Chapter 3</i>
W	29-Sep	Lecture 7: Hormones, Stress and the Brain <i>Reading: Chapter 5</i>
R/F	9/30 & 10/1	LAB Review for Exam 1
M	4-Oct	Lecture 8: In-Class Exam Review
W	6-Oct	Midterm Exam #1
R/F	10/7 & 10/8	LAB 4: Observing Behavior
M	11-Oct	HOLIDAY
T	12-Oct	Lecture 9: The Hippocampus; Learning, Memory and Plasticity I <i>Reading: Chapter 17</i>
W	13-Oct	Lecture 10: The Hippocampus Learning, Memory, and Plasticity II <i>Reading: Chapter 17</i>
R/F	10/14 & 10/15	LAB 5: Brain Health Intervention
M	18-Oct	Lecture 11: The Neurobiology of Emotion <i>Reading: Chapter 15</i>
W	20-Oct	Lecture 12: Executive Functions of the Frontal lobe <i>Reading: Chapter 18</i>

R/F	10/21 & 10/22	LAB 6: Cockroach leg
M	25-Oct	Lecture 13: Principles of Brain Plasticity Reading: .PDF articles
W	27-Oct	Lecture 14: Exercise and the Brain Reading: .PDF articles
R/F	10/28 & 10/29	LAB 7: Oral Presentations of Special Projects I
M	1-Nov	Lecture 15: Meditation and the Brain Reading: .PDF articles
W	3-Nov	Lecture 16: Sleep and the Brain Reading: Chapter 14
R/F	11/4 & 11/5	LAB 8: Review for Exam 2
M	8-Nov	Lecture 17: Review for Exam 2
W	10-Nov	Midterm Exam #2
R/F	11/11 & 11/12	LAB 9: Oral Presentation of Special Projects II
M	15-Nov	Lecture 18: The Veracity of Memory (Special Guest lecturer, Prof. Yadin Dudai) Reading: TBD
W	17-Nov	Lecture 19: Somatosensory System Reading: Chapter 8
R/F	11/18 & 11/19	Lab 10: Somatosensory System
M	22-Nov	Lecture 20: Visual System I Reading: Chapter 10
W	24-Nov	Lecture 21: Visual System II Reading: Chapter 10
R/F	11/25 & 11/26	THANKSGIVING RECESS
M	29-Nov	Lecture 22: Motor System Reading: Chapter 11
W	1-Dec	Lecture 23: Motor disorders Reading Chapter 11
R/F	12/2 & 12/3	Lab 11: Visual System
M	6-Dec	Lecture 24: Creativity and the Brain Reading: .PDF articles

W 8-Dec **Lecture 25:** The Neurobiology of Love

R/F 12/9 &
12/10 **Lab 12: Review for Final**

M 13-Dec **Lecture 26:** Review for Final