

# BRAIN AND BEHAVIOR

## PSY 209

Spring 2025

Tuesday and Thursday 8:30 – 9:50 am  
118 Psychology Building

**Instructor:** Alexandra Castillo-Ruiz, Assistant Professor, Department of Psychology and Neuroscience Program

**Office:** 4009 ISTB

**Office hours:** Tuesday 10:30 am – 11:30 am via Zoom (or by appointment)  
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preferred communication method, emails will be answered within 1-2 business days

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**Graduate TA:** Luciano Voutour, PhD candidate, Department of Psychology

**Office hours:** by appointment

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**Undergraduate TA:** Leela Grimsby

**email:** grimsbyl@msu.edu

### **Textbook:**

“Behavioral Neuroscience” 8<sup>th</sup> Edition, 2017, SM Breedlove & NV Watson, Sinauer press.

### **Course description:**

This course will focus on the biological bases of behavior. We will examine the brain from physiological, developmental, and evolutionary perspectives. We will do this to better understand how and why we behave the way we do. Non-human animals are going to be part of our discussions as well as they have been invaluable in the understanding of the human brain and behavior. We will also discuss what happens when normal functioning of the brain is disrupted.

This class does not have an Honors option.

### **Course learning objectives:**

This course has five learning objectives, which will be achieved through activities and exams. At the completion of this course, you should be able to:

1. Understand that the brain regulates behavior and that in turn behavior and experience can influence the brain.
2. Recognize the main parts of the nervous system and their function.
3. Understand how the nervous system communicates at the cellular level.
4. Identify the main functions regulated by the brain: sensory, motor, sex, sleep, daily rhythms, emotions, stress, homeostasis, learning and memory, and cognition.
5. Apply the concepts learned in class to understand what happens when normal function of the brain is disrupted.

### **Grades:**

Grades will be assigned according the following scale:

90-100% = 4.0

75-79.9% = 2.5

60-64.9% = 1.0

85-89.9% = 3.5

70-74.9% = 2.0

< 59.9% = 0

80-84.9% = 3.0

65-69.9% = 1.5

### **Overall grade:**

There will be 500 points possible:

- 240 The two midterms with the highest scores
- 100 In-class participation
- 160 Final exam

### **Midterms: 120 points total per midterm, 240 points total**

Midterms will cover material presented in lectures and in-class activities. Midterms will consist of a mixture of multiple-choice and fill-in-the-blank questions. The midterm with the lowest score will be dropped from the calculations for the final grade. Grades will be posted on D2L and/or Top Hat within a business week after the exam. Exams won't be returned to you. Instead, come to office hours or make an appointment to review your exam. Please bring to my attention any grading issues no later than a week after grades are posted.

### **In-class participation: 100 points total**

Participation will involve activities that are to be completed during our class time. The grading system for participation will be completion or points. A record of these assignments will be updated on D2L and/or Top Hat. No make-ups will be offered if you miss an assignment, except due to religious observance (see Course policies section below). Instead, the two assignments with the lowest scores will be dropped from the calculations for the final grade.

### **Final exam: 160 points total**

Approximately 30% of the final exam will be cumulative, including key concepts covered during the semester. The rest of the final will include the material covered after midterm 3. The final exam will consist of a mixture of multiple-choice and fill-in-the-blank questions. Final exam grades will be posted 1-2 days after the exam. Deadline to review your final exam is Friday, May 2<sup>nd</sup> (set an appointment).

### **Top Hat:**

This course requires the use of Top Hat ([www.tophat.com](http://www.tophat.com)), a classroom engagement tool. You will be able to submit answers to in-class participation activities using Apple or Android smartphones and tablets, laptops, or through text message. If you are unable to submit your responses due to technical issues, you must notify me or the TAs at the end of the class corresponding to the day of the assignment. You must also provide your response to receive credit. The TAs and I will remain in the classroom for a few minutes after each class is over. *Answers submitted by email won't be accepted.*

To connect to Top Hat:

- Go to <https://app.tophat.com/register/student>
- Search for: Michigan State University
- Search for our course with the following join code: 891849

Top Hat will require a paid subscription. For more information visit: [www.tophat.com/pricing](http://www.tophat.com/pricing). Please, subscribe no later than Monday, January 20<sup>th</sup>.

### **Course policies:**

#### **A general comment:**

The TAs and I are here to help you understand the material. We will be very happy to discuss with you material covered in class or in the textbook. So, please come to office hours or talk to me before or after class. If none of these times work for you, please make an appointment.

#### **Missed exams:**

Please be on time. You will only have the time allotted for class to take the exams. Also, my policy is to stop allowing students to take an exam after the first student has completed the exam and exited.

**There will be no make-up midterms, except due to religious observance** (see related section below). Instead, I will automatically drop the midterm exam that has the lowest score (note: this does not apply to the FINAL exam). If you miss two midterm exams, then I will give you an opportunity to make up for one of them, but only when you provide evidence of extreme circumstances (e.g., illness, jury duty, death in the immediate family, traffic accident) within 24 hours of missing the exam.

### Study guides and review sessions:

A study guide will be available to you the week before each exam. In addition, the TAs will hold review sessions before each exam. The times and dates for those will be announced a week before each exam. Note that the review session for the final will be held during the last day of class.

### Lectures:

Class slides will be posted generally before each lecture. Note that the posted materials won't include or match exactly all the information presented in class.

### Class materials:

Please note that class materials: lectures, study guides, in-class assignments, etc., are meant to be for PERSONAL USE ONLY. You don't have my permission to reproduce, distribute, or post class materials publicly.

### Attendance:

I expect that you will attend class. This is for your own benefit. Assigned readings are intended to supplement and clarify material presented in lecture, not to substitute for material presented in lectures, nor to replace your attendance at lectures. If for any reason you must miss lecture, I expect you to make arrangements to obtain notes. In addition, I expect you to be on time and stay until class is done. If you either have to arrive late or leave early I expect you to sit close to the door to minimize disruptions.

### Observing Religious Holidays:

By the end of the second week of classes, you are expected to provide me with notice of the dates of religious holidays on which you plan to be absent during the semester. This has the goal of providing you with the opportunity to make up for missed work. Failure to do so will result in a score of zero for missed assignments, and no opportunity for a make-up will be provided.

### Request for special opportunities:

Please be mindful that it is against MSU policy for a professor to give any one student a special opportunity that is not provided to all students. These include requests for extra credit, extra points, or special opportunities to make up exams.

### Respect:

I expect you to refrain from the following activities during class: (1) having cell-phones on (if you must have your cell-phone on due to other responsibilities, please change the ringer to vibrate and exit the class to answer your call), (2) talking to neighbors when I or another person is speaking, (3) using electronic devices for purposes other than those related to class such as taking notes or in-class activities, (4) sleeping, (5) preparing to leave when I am still lecturing, and (6) mimicking, embarrassing or intimidating your classmates.

### Email etiquette:

The overall goal of this requirement is to help you with your professional development. I expect your emails to be written in a professional way. That is, your emails must contain: 1) a subject line, 2) a proper greeting, 3) the reason why you are emailing, and 4) a formal acknowledgment at the end. Please, proof read your emails before sending. This should help you avoid typos.

### Academic honesty:

The Spartan Code of Honor states:

“As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at MSU continuing the endeavor to build personal integrity in all that I do.”

Therefore, unless authorized by me, you are expected to complete all course assignments and exams, without assistance from anyone (peers, AI, etc.). Any violations of the academic honesty policy will result in a score of zero in any given assignment. In addition, an academic dishonesty charge may be filed against you.

Accommodations for Disabilities:

Students with disabilities should contact the Resource Center for Persons with Disabilities (RCPD) to establish clear and reasonable accommodations. For an appointment with a counselor, call 353-9642 (voice) or 355-1293 (TTY). If you require testing accommodations as specified from RCPD, contact your me or you graduate TA with the appropriate paperwork at least 10 days prior to the exam date.

**Course schedule**

<b>Date</b>	<b>Topic</b>	<b>Readings</b>
01/14/25 01/16/25 01/21/25 01/23/25 01/28/25 01/30/25 <b>02/04/25</b>	Introduction Approaches for the study of the brain Functional neuroanatomy Functional neuroanatomy Neurophysiology Neurophysiology <b>MIDTERM 1</b>	Chapter 1 Chapter 1 Chapter 2 Chapter 2 Chapter 3 Chapter 3
02/06/25 02/11/25 02/13/25 02/18/25 02/20/25 02/25/25 <b>02/27/25</b>	The chemical basis of behavior Hormones and the brain NO CLASS – MSU Remembrance Day Hormones and the brain Evolution Evolution and Development <b>MIDTERM 2</b>	Chapter 4 Chapter 5  Chapter 5 Chapter 6 Chapter 6 and 7
03/04/25 03/06/25 03/11/25 03/13/25 03/18/25 03/20/25 03/25/25 03/27/25 <b>04/01/25</b>	NO CLASS- SPRING BREAK NO CLASS- SPRING BREAK Development Sensory systems Sensory systems and Motor systems Sex Homeostasis Biological Rhythms <b>MIDTERM 3</b>	  Chapter 7 Chapter 8-9 Chapter 10-11 Chapter 12 Chapter 13 Chapter 14
04/03/25 04/08/25 04/10/25 04/15/25 04/17/25 04/22/25 04/24/25 <b>04/29/25</b>	Sleep Emotions, Aggression, and Stress Psychopathology Learning and memory Cognition TBA Review session for final  <b>FINAL EXAM:</b> <b>7:45 AM – 9:45 AM same room as lecture</b>	Chapter 14 Chapter 15 Chapter 16 Chapter 17 Chapter 18

**The course syllabus provides a general plan for the course and deviations may be necessary. If and when changes occur, announcements will be made in class and on the class website.**