# Brain and Behavior – PSY 209

## When: Tuesday and Thursday, 1:00-2:20pm

## Where: Ernst Bessey Hall 108

# Course Description

In this course we will discuss how the brain works to influence behavior, and how behavior and our environment alter the brain. This includes basic physiological mechanisms, in which cells in the brain communicate with one another to allow all species to interact and navigate their environment, to more evolutionary advanced processes, which allow humans to use complex cognitive strategies. We will also discuss how mechanisms of the brain can go wrong and lead to maladaptive consequences and conditions, such as those seen in mental illness.

# Instructor and Office Hours

**Dr. Jenna Lee (Instructor)**

**Office hours:** Mon 11:00-12:00(or by appointment) Zoom ID **928 2828 2288**

**E-mail: leejen32@msu.edu**

**Bing Mo (Graduate student TA)**

**Office hours zoom:** Friday 9:30-10:30 (or by appointment) Zoom ID **935 0405 5050** Passcode: 276445

**E-mail:****mobingxi@msu.edu**

# Reading Material

“Biological Psychology” 7th Edition, 2013, SM Breedlove and NV Watson, Sinauer press, available at the Student Book Store

# Attendance

It is expected that you attend each lecture. You are responsible for all information presented in class, including any announcements and class discussions. Lectures will also include material not presented in the book. You should prepare for each class by reading the assigned chapter prior to class. Course information, syllabus, review guides, announcements will be posted using D2L. Abbreviated versions of the PDF files used for lecture will be posted prior to lecture.

# Classroom Behavior

Students are expected to put away all distractions before class begins, **and minimize cell phone use**. It is not appropriate to answer phone calls or text during lecture. If you arrive late or leave early, plan to sit near the back and by an aisle to minimize the disruption to others. **Please stop talking to your neighbor during the lecture**. Laptop use is permitted. However, distracting activities such as instant messaging, writing e-mail, social networking, or playing games is **strictly prohibited during class time.** These behaviors are disruptive and are not conducive to the learning process.

# Questions and Exam Preparation

ALL E-mail inquiries should be directed to Bing Mo, **mobingxi@msu.edu,** if you are having difficulty with the material, have questions or other concerns. You are encouraged to ask questions and utilize the service of the TA who is available to help you learn.

Review sessions: Exam review sessions will be held by the TA during class time. During these sessions, the TA will answer your questions, but will not be giving a prepared lecture. If there are no questions, the review session will end early. These review sessions are not required, but strongly encouraged.

# Communication with Instructor

**If you have a question that your TA is not able to answer,** please contact me during office hours or email. I will strive to return emails in a timely (48 hours) manner during week days during 8:00-6:00pm.

# Exams and Grading

## Tests will be open-book online via D2L on exam day (1:00 - 5:00pm)

You will need high-speed internet connection through the D2L platform. There will be multiple versions of each test and presented in random order. You will not be able to click “back” on exams. You will have 60 minutes for Midterm and 75 minutes for Final unless otherwise specified by documentation from (RCPD).

Four Midterm Exams: (45 questions each, 5 points/question = **225 points/exam**).

These exams will cover material dealt with during lecture periods (lectures, movies, discussion…etc) or contained in the readings. They will be multiple-choice tests with multiple versions administered via D2L. **These exams will be limited to 60 minutes.**

Final Exam: (75 questions, 3 points/question, **225 points**).

There will be a final exam that covers material dealt throughout the semester. It will be the same format as the midterms. **This exam will be limited to 90 minutes.**

All students are allowed to drop the lowest test grade**.** Therefore, the final exam can be optional if a student is satisfied with their current grade.

## In Class Activities: (175 points).

There will be 8 in class discussions or activities. During several class periods we will set aside time to discuss an issue in biological psychology that is either controversial, directly relevant to important social issues or has wide-reaching implications for the field of science. You will then be asked to write a paragraph in response to a few questions about the issues discussed. Your responses will be uploaded through D2L and **must be received by *8:00am the following day*** of the activity being administered. Students will receive up to 25 points for participation in each discussion periods. There may be questions on midterms or the final exam that deal with material brought up during these periods of discussion. I will drop all students lowest assignment score.

Top hat questions: (35 questions, 2 points/question, **up to 50 points**).

We will be using Top Hat Pro (www.tophat.com) for in class questions. During some classes, approximately two questions will be administered based on the material being discussed. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. For instructions on how to create a Top Hat account and enroll in the Top Hat Pro course, please refer to the invitation sent to your school email address or consult Top Hat's Getting Started Guide (https://bit.ly/31TGMlw).

To connect to Top Hat complete the following:

• Go to https://app.tophat.com/register/student

• Click "Search by school" and input the name of our school

* Search for our course with the following join code: **833752**

**-Note that you can be absent for up to 10 questions and still obtain all 50 points**

# Grades will be assigned on the following scale:

90-100% = 4.0 75-79% = 2.5 60-64% = 1.0

85-89% = 3.5 70-74% = 2.0 < 60% = 0

80-84% = 3.0 65-69% = 1.5

# Exam Policy

## Tests will be presented online and available (1:00pm-5:00pm) on exam day

You will need access to high-speed internet for D2L format exams. Because all students can drop lowest test grades, make-up exams will only be given in extreme cases such as the following:

1. A documented scheduled conflict, such as a religious holiday or required participation in a university-sanctioned event.
	1. **You must get permission from the TA 24 hours prior to the test day**
2. A documented serious medical or family emergency,
	1. **You must have a note from doctor. If your excuse involves something you want to keep private, you must get a note from the Dean AND permission from the TA by 12:00pm the following day.**

**No makeup exams will be given unless you have a valid, documented excuse** as described above. **Absence from an exam for any other reason will result in a grade of 0 for that exam.**

In summary, because all students take the tests **online** with an accommodating window of time, and all students can drop their lowest test scores, **only a note from your doctor or the Dean presented to your TA by 12:00pm** the following day will allow for a make-up exam.

# MSU Office of Registrar Policies

## Academic Honesty:

Article 2.III.B.2 of the [Academic Rights and Responsibilities](http://splife.studentlife.msu.edu/student-rights-and-responsibilities-at-michigan-state-university/article-2-academic-rights-and-responsibilities) states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." In addition, the Department of Psychology adheres to the policies on academic honesty as specified in [General Student Regulations](http://splife.studentlife.msu.edu/regulations/general-student-regulations) 1.0, Protection of Scholarship and Grades; the [all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations](https://ombud.msu.edu/academic-integrity/). See [Spartan Life Online](http://splife.studentlife.msu.edu/) (splife.studentlife.msu.edu) and/or the [MSU Web site](http://www.msu.edu/) (msu.edu) for more.

Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from an outside source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the [www.allmsu.com](http://www.allmsu.com/) Web site to complete any course work in this course. **Anti-Plagiarism software will be implemented in grading submitted essays/assignments.** Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also the [Academic Integrity webpage](https://ombud.msu.edu/academic-integrity/).)

Any student caught cheating, plagiarizing or otherwise violating the MSU academic integrity policy may receive the maximum punishment, including a grade of 0.0 in the course.

## Diversity Statement

As students and faculty, it is incredibly important to emphasize that research supports the idea that diverse and inclusive environments enhance learning (e.g., Griffin et al, 2015; Pascarella & Terezini, 2005). Each student brings unique perspectives and life experiences that will be embraced and celebrated. As we learn from each other, I expect that all students treat fellow students with the same appreciation for unique perspectives.

It is my intent that students from all diverse backgrounds and perspectives feel comfortable in the classroom setting and be provided with discussion and material that will enhance their scholarly learning.

 Moreover, the diversity that students provide to PSY209 will be perceived as a strength and resource that enhances the academic environment for all those enrolled in this course.

## Accommodations for Students with Disabilities:

[From the Resource Center for Persons with Disabilities](https://www.rcpd.msu.edu/get-started/faculty-departmental-resources/model-statements-disability-inclusion) (RCPD): Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at [rcpd.msu.edu](https://rcpd.msu.edu/). **Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation ("VISA") form.** **As Stated in University Policy: Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.).**

## Mental Health Resources

Resources (see <https://civilrights.msu.edu/resources/health-care-mental-health.html>)

## Limits to Confidentiality:

Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU community members and others. As the instructor, I must report the following information to other University offices (including the Department of Police and Public Safety) if you share it with me:

* Suspected child abuse/neglect, even if this maltreatment happened when you were a child,
* Allegations of sexual assault or sexual harassment when they involve MSU students, faculty, or staff, and
* Credible threats of harm to oneself or to others.

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting you are encouraged to make an appointment with the MSU Counseling Center.

## Disruptive Behavior:

Article 2.III.B.4 of [Student Rights and Responsibilities](http://splife.studentlife.msu.edu/student-rights-and-responsibilities-at-michigan-state-university/article-2-academic-rights-and-responsibilities) for students: "The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned." Article 2.III.B.10 states that "The student and the faculty share the responsibility for maintaining professional relationships based on mutual trust and civility." [General Student Regulation 5.02](http://splife.studentlife.msu.edu/regulations/general-student-regulations) states: "No student shall obstruct, disrupt, or interfere with the functions, services, or directives of the University, its offices, or its employees (e.g., classes, social, cultural, and athletic events, computing services, registration, housing and food services, governance meetings, and hearings).” Students whose conduct adversely affects the learning environment may be subject to disciplinary action through the Student Judicial Affairs office.

## ****ADD AND DROP PERIOD****.

Students may add courses using the enrollment system through the first 1/14th of the term of instruction (the 5th day of classes in the fall and spring semesters). Students may drop courses using the enrollment system through the middle of the term of instruction.

**TO DROP A COURSE OR WITHDRAW FROM THE UNIVERSITY AFTER THE MIDDLE OF THE TERM OF INSTRUCTION**. A student may drop a course or withdraw after the middle of the term of instruction only to correct errors in the enrollment or because of events of catastrophic impact, such as serious personal illness. If the student is passing the course, or there is no basis for assignment of a grade at the time of the drop, a W grade will be assigned. If failing, a 0.0 (or N in a P-N graded course) will be assigned. The course will remain on the student’s academic record.

Undergraduate Students: To initiate a late drop or withdrawal, the student must obtain approval from the office of the associate dean of their college or if not yet admitted to college, the associate dean of the Neighborhood Student Success Collaborative. Exceptions are James Madison College, Lyman Briggs College, and the Residential College in Arts and Humanities.

# Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Module | Lesson | Complete reading **BEFORE** Class |
| 1/10 | 1: Intro | ***Zoom*** *Lecture 1: Introduction****\*\*\****  |  |
| 1/12 | 2: Functional Neuroanatomy | ***Zoom:*** *Lecture 2: How do we navigate the brain?* | **Ch1 & Ch. 2** *To figure 2.1* |
| 1/17 | 2: Functional Neuroanatomy | *Lecture 3: Identifying neurons connections part 1* | **Finish Ch. 2** |
| 1/19 | 2: Functional Neuroanatomy | *Lecture 4: Identifying neurons connections part 2****\*\*\**** | **Ch.2** |
| 1/24 | 3. Neurophysiology | *Lecture 5: Neurons at rest* | **Ch. 3** *To table 3.1* |
| 1/26 | 3. Neurophysiology  | **No Class**: online activity***\*\*\**** | **Finish Ch. 3** |
| 1/31 | 3. Neurophysiology | *Lecture 6: Modulation of Action Potential* | **Ch.3** |
| 2/2 | 3. Neurophysiology | *Lecture 7: How Action Potentials work* | **Ch.3** |
| 2/7 | 3. Neurophysiology | **No Class**: online activity***\*\*\**** | ***TBD*** |
| **2/9** | **Review Session** |  | **--** |
| **2/14** | **Exam 1 via D2L** |  | **--** |
| 2/16 | 4. Chemistry of Behavior | *Lecture 8: Catecholamines & Acetylcholine & DREADDS****\*\*\**** | **Ch 4** *To figure 4.10* |
| 2/21 | 4. Chemistry of Behavior | *Lecture 9: Glutamate, GABA & Serotonin*  | **Finish Ch.4** |
| 2/23 | 4. Chemistry of Behavior | *Lecture 10: Principles of pharmacology* | **Ch.4** |
| 2/28 | 4. Chemistry of Behavior | *Lecture 11: Psychoactive Drugs\*\*\** | **Ch.4** |
| 3/2 | *5. TBD* | *Lecture 12:TDB* | ***TBD*** |
| 3/7 | No class | Spring Break | **--** |
| 3/9 | No class | Spring Break | **--** |
| **3/14** | **Review** |  | **--** |
| **3/16** | **Test 2** |  | **--** |
| 3/21 | 6. Development | *Lecture 13: Development\*\*\** | **Ch.7** *To box 7.3* |
| 3/23 | 6. Development | *Lecture 14: Development across life* | **Finish Ch. 7** |
| 3/28 | 7. Homeostasis | *Lecture 15: Principles of Homeostasis* | **Ch 13** *To box 13.1* |
| 3/30 | 7. Homeostasis | *Lecture 16: Neuroscience of feeding* | **Finish Ch. 13** |
| 4/4 | 8. Emotions | *Lecture 17: Mechanisms of emotion\*\*\** | **Ch. 15** |
| **4/6** | **Review** |  | **--** |
| **4/11** | **Test 3** |  | **--** |
| 4/13 | 9. Psychopathology | *Lecture 18: Schizophrenia and Depression* | **Ch. 16** |
| 4/18 | 9. Psychopathology | *Lecture 19: PTSD & class choice\*\*\** | **Ch.16** |
| 4/20 | 10. Learning & Memory | *Lecture 20: Learning* | **Ch. 17** |
| **4/25** | **Test 4** |  | **--** |
| 4/27 | Neuroscience Careers and Review | *Neuroscience and careers* | **--** |
| **5/3** |  **(Final) 10:00am-12:00PM** |  | **--** |

\*\*\* = **Indicates in class discussion or activity for points**

**8 total in-class activity assignment, you are allowed to drop the lowest assignment grade**