

**Lamar University**  
**College of Arts and Sciences**  
**PSYC 4380-01 CRN 11056**  
**Behavioral Neuroscience**  
**MWF 9:10-10:05**  
**Fall 2017**

**Instructor:** Dr. Edythe Kirk, Ph.D.  
**Office:** 203N Social & Behavioral Sciences Building  
**Office Hours:** 10:15-11:15 MTWF, 9:30-11:30 R, 2:15-3:30 MR, and by appointment  
**Phone:** (409) 880-8285  
**Fax:** (409) 880-1710  
**Email:** kirkee@lamar.edu (please DO NOT use Blackboard course mail)  
**Course Website:** Blackboard

**Course Description:** *Behavioral neuroscience* (also known as biological psychology or physiological psychology) is the *scientific study of the nervous system*. The main goal of the field of behavioral neuroscience is to understand brain structures and functions that respond to experiences, perform regulatory functions, and generate behavior. Because of nature of the discipline, a foundational background in biology is essential for understanding the course material and successful course completion (see course prerequisites below). Additional preparation in chemistry, physics, and mathematics is also helpful, but not explicitly required. This course is designed to be a general but comprehensive introduction to the field of behavioral neuroscience. The course will focus on the biological bases of behavior, emphasizing mechanisms of the central nervous system. Topics include basic neuroanatomy and neurophysiology, neurotransmission and neurochemistry, neuroscience research techniques, sensory and motor processing, and the biological bases of psychopathology and learning and memory.

**Course Prerequisites:** PSYC 2301 *and* BIOL 1406, 1407, 1408, 1409, 2401, *or* 2402 (C or higher in each)

**Student Learning Outcomes:** Students who successfully complete this course will be able to:

1. Identify major structural and functional components of the central nervous system and explain their roles in behavior.
2. Explain the basic processes of neural transmission and neural plasticity and describe their links to psychopathology and learning and memory.
3. Explain the basic processes of sensory and motor functioning, homeostatic regulation of behavior, and biological rhythms and describe their links to behavior.
4. Explain basic anatomical and physiological neuroscientific research methods and how those methods are used to understand brain structures and functions that respond to experiences, perform regulatory functions, and generate behavior.

**Required Textbook:**

Watson, N.V., & Breedlove, S.M. (2016). *The mind's machine: Foundations of brain and behavior* (2<sup>nd</sup> ed.). Sunderland, MA: Sinauer. ISBN 978-1-60532-276-3

## Course Management Policies:

**Disability Accommodation:** Lamar University is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is located in the Communications building room 105. Office staff collaborate with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact the DRC at (409) 880-8347 or [drc@lamar.edu](mailto:drc@lamar.edu) to arrange a confidential appointment with the Director of the DRC to explore possible options regarding equitable access and reasonable accommodations. If you are registered with DRC and have a current letter requesting reasonable accommodations, contact your instructor early in the semester to review how the accommodations will be applied in the course.

**Course Structure and Teaching Methodology:** This course will utilize active and collaborative learning strategies to enhance student mastery. Students are encouraged to become active learners in the classroom by participating in in-class activities, asking questions, and offering reflections that enhance understanding of course concepts. Students who are alert, prepared, and open to class activities and discussions will be given every consideration when making borderline final grade decisions. *In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to login to Lamar University's website's homepage ([www.Lamar.edu](http://www.Lamar.edu)) for instructions about continuing courses remotely.*

I use the Top Hat ([www.tophat.com](http://www.tophat.com)) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

An email invitation was sent to you by email, but if you didn't receive this email, you can register simply by visiting our course website: <https://app.tophat.com/e/527678>; our course join code is 527678.

Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: [www.tophat.com/pricing](http://www.tophat.com/pricing). Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email ([support@tophat.com](mailto:support@tophat.com)), the in app support button, or by calling 1-888-663-5491.

**Expectations of classroom behavior:** Students are full partners in fostering a classroom environment that is conducive to learning. Students are prohibited from engaging in any form of behavior that detracts from the learning experience of fellow students. Inappropriate behavior in the classroom may result in a request for the offending student to leave class.

**Attendance:** Regular class attendance is expected of all students. Each student is accountable for all work missed because of absence. Instructors are under no obligation to make special arrangements for students who have been absent. Should an absence from class be unavoidable, the student is encouraged to obtain lecture notes from a classmate. Lecture notes will not be provided by the course instructor, although lecture slides are posted to Blackboard for your convenience. Attendance data will be monitored and reported to the Financial Aid Department in accordance with state and federal laws but will not count against students' grades.

**Academic Integrity:** As stated in the Lamar University Student Handbook, "Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Punishable offenses include, but are not limited to, cheating on an examination or academic work which is to be submitted, *plagiarism*, collusion, and the abuse of resource materials" (p. 81). *Any*

*student found guilty of academic dishonesty will be awarded a reasonable penalty that may include a failing grade in the course.* Students who wish to appeal the decision may do so as specified in the Lamar University Student Handbook (available at <http://students.lamar.edu/student-handbook.html>).

**Drop/Withdrawal:** Students are responsible for making sure they are properly enrolled in the course. If, at any time, students decide not to participate in the course, it is *their responsibility* to officially drop or withdraw according to university policy. The academic calendar published on the university website lists drop dates (available at <http://events.lamar.edu/academic-calendar-listing.html>). Drops or withdrawals after the course begins may carry financial penalties.

**Emergency Procedures:** Many types of emergencies can occur on campus; instructions for severe weather or violence/active shooter, fire, or chemical release can be found at: <http://www.lamar.edu/about-lu/administration/risk-management/index.html>. Following are procedures for the first two:

**Severe Weather:**

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.
- Stay in the center of the room, away from exterior walls, windows, and doors.

**Violence/Active Shooter (CADD):**

- **CALL** - x8311 from a campus phone (880-8311 from a cell phone). Note: Calling 911 from either a campus phone or cell phone will contact Beaumont City Police Dispatch rather than University Police.
- **AVOID**- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- **DENY**- Barricade the door with desks, chairs, bookcases or any other items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- **DEFEND**- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

**Evaluation Methods:** Students will be evaluated with five equally weighted examinations. Exam questions may consist of objective (matching, multiple choice) and discussion (short answer, essay) items. Questions will come from in-class material and textbook readings, as well as resources posted on Blackboard, which means that you will also be tested on material *not* presented in class. The exams will be given in class on the days scheduled. **NO MAKE-UP EXAMS WILL BE GIVEN.** *Note that a grade of "F" may be recorded for a student who is absent from the final exam and is not passing the course (Lamar University General Catalog).*

**Assignment of Final Course Grades:** Grades will be based on the total number of points obtained as shown below. Points earned will correspond to the following letter grades.

Exam	Points	Letter Grade	Total Number of Points
Exam 1	100 points	A	≥ 450
Exam 2	100 points	B	400-449
Exam 3	100 points	C	350-399
Exam 4	100 points	D	300-349
Exam 5 (Final Exam)	100 points	F	≤ 299
<b>Total</b>	<b>500 points</b>		

## **Tentative Course Outline:**

You will be responsible for reading the text chapters assigned to each topic. It is advised that you read the assignment *prior* to class to promote discussion of the topics. The course will generally progress in the following way:

<b>Unit I Neuroscience Foundations Part 1</b>	<b>Assigned Reading</b>
Overview of biological psychology	Chapter 1
Basic neuroanatomy	Chapter 2

**TENTATIVE EXAM DATE - MONDAY, SEPTEMBER 11**

<b>Unit II Neuroscience Foundations Part 2</b>	<b>Assigned Reading</b>
Basic neurophysiology	Chapter 3
Basic neuropharmacology	Chapter 4

**TENTATIVE EXAM DATE - MONDAY, OCTOBER 2**

<b>Unit III Movement and Perception</b>	<b>Assigned Reading</b>
Movement	Chapter 5 (pp. 126-141)
Sensory processing	Chapter 5 (pp. 110-121)
Vision	Chapter 7

**TENTATIVE EXAM DATE - MONDAY, OCTOBER 23**

<b>Unit IV Regulation</b>	<b>Assigned Reading</b>
Neuroendocrinology	Chapter 8 (pp. 210-221)
Homeostasis	Chapter 9
Biological rhythms	Chapter 10

**TENTATIVE EXAM DATE - MONDAY, NOVEMBER 13**

<b>Unit V Applied Neurosciences</b>	<b>Assigned Reading</b>
Stress and health	Chapter 11 (pp. 330-335)
Psychopathology	Chapter 12
Development	Chapter 13 (pp. 393-401)
Learning, memory, and plasticity	Chapter 13 (pp. 368-393)

**FINAL EXAM - FRIDAY, DECEMBER 8, 2017 8:00-10:30 AM**

**Note:** The professor reserves the right to make changes in the course, including additional readings or requirements, exam date changes, etc. Any changes will be announced in class and posted on Blackboard. It is the student's responsibility to keep up with announced changes in the course.

**All policies stated within this syllabus are final and non-negotiable.**