

PSY 111: Behavioral Neuroscience

MTW 11am-12:25pm • Broida 1640

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In this course students will learn the basics of how the nervous system regulates behavior in order to prepare them for upper division courses on the biological underpinnings of behavior. This will be accomplished with a focus on three main objectives

Objective	Method of Assessment
Students will describe and explain the basic elements of the nervous system, including cellular anatomy, membrane potentials, neuron signaling, and neurotransmission.	Two homework assignments covering topics and readings of interest. One exam consisting of multiple choice and free response questions covering each of the outlined topics.
Students will integrate knowledge of basic biological elements into an understanding of the sensory, proprioceptive, motor, and memory systems.	Two homework assignments covering topics and readings of interest. One exam consisting of multiple choice and free response questions covering each of the outlined topics.
Students will integrate knowledge of basic biological elements and systems into an understanding of the integrative functions involved in higher-order complex human behaviors such as learning, attention, consciousness, motivation, emotion, and reproduction.	Two homework assignments covering topics and readings of interest. One exam consisting of multiple choice and free response questions covering each of the outlined topics.

This class will be a mix of lecture, discussion, and various activities. It is important that you come to class, and that you complete all of the readings ahead of time. Your readings will be the launching pad for all of the discussion and activities you will complete in this course.

Program Learning Outcomes.

The Department of Psychological & Brain Sciences' Program Learning Outcomes reflect the knowledge, skills, and values that students are expected to acquire upon completion of their BA and BS degrees. <https://www.psych.ucsb.edu/undergrad/program-learning-outcomes-0>. In

particular, this course promotes acquisition of PLOs 1, 2, and 3 through the completion of course objectives outlined above.

Readings:

Six primary research papers be posted on the course website with reading questions to complement associated lectures. One essay question from each exam will be taken directly from these reading questions. See the lecture schedule for assigned papers.

Textbook:

Neuroscience: Exploring the Brain, 4th edition (Bear, Connors, & Paradiso 2016) ISBN: 9780781778176.

All material on the exam will be covered in either the lectures or the required reading questions, but this text is recommended if you seek further clarification or information on any topics presented. See the lecture schedule for recommended chapters (BCP).

Lecture Schedule:

Week	Date	Content/Topic	Required Reading / Text	Assignment due
1	6/25	Introduction	BCP 1, 7	
		1: Intro to Neuroscience & Overview of the Nervous System		
	6/26	2: Cells of the Nervous System & Protein Synthesis	Fields (2004), Brock (2018)	HW 1
			BCP 2	
	6/27	3: Membrane Potentials & Neuron Signaling	BCP 3-4	
2	7/2	4: Neurotransmission	Bean (2007)	HW 2
			BCP 5-6	
	7/3	Exam 1: Basic Elements (Lectures 1-4)		
	7/4	Holiday – No Lecture		
3	7/9	5: Principles of Sensation & The Chemical Senses	BCP 8	

	7/10	6: Vision	Thivierge and Marcus (2007)	HW 3
			BCP 9-10	
	7/11	7: Audition & Balance, Somatosensation	BCP 11, 12	
4	7/16	8: Motor Control in the Spine & Brain	BCP 13, 14	
	7/17	9: Chemical Control of the Brain and Behavior	Chrousos (2009)	HW 4
			BCP 15	
	7/18	Exam 2: Systems (Lectures 5-9)		
5	7/23	10: Reward, Motivation, Emotion	Berridge et al. (2009)	HW 5
			BCP 16, 18	
	7/24	11: Language, Brain Rhythms, & Sleep	BCP 19, 20	
	7/25	12: Wiring the Brain	BCP 23	
6	7/30	13: Memory Systems, Molecular Mechanisms of Learning & Memory	BCP 24, 25	
	7/31	14: Attention, Consciousness & Mental Illness	Bassett & Gazzaniga (2011) Gazzaniga (2010)	HW 6
			BCP 21, 22	
	8/1	Exam 3: Integration (Lectures 10-14)		

Course Requirements:

Requirement	Format?	When?	Worth?
Midterm Exam 1	Multiple Choice / Short Answer	7/3	25%
Midterm Exam 2	Multiple Choice / Short Answer	7/18	25%
Final Exam	Multiple Choice / Short Answer	8/1	45%

Homework	Short reflections	~ Weekly	5%
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PBS Exam Identification Policy:

Photo identification must be produced if requested in every lower division and 100-level examination.

Make-Up or Rescheduled Exams Policy:

Exams will be given only during the time scheduled on the syllabus. You must drop the course if you cannot take the exams at the regularly scheduled times. Make-up exams will be given with a letter signed by a physician indicating you were unable to take the exam, or an official letter indicating that your absence was authorized. missed exam will earn a grade of zero. Make-up exams will be scheduled within two weeks of the regularly scheduled exam time. Make-up exams may be in a different format.

PBS Grading Policy.

All grades are final. Every effort will be made to ensure that your grade is correct. A grade will be changed only if the work was misgraded or your total points were miscalculated. PBS instructors do not lower grades to allow re-takes of courses.

Grading Scale:

Below is the grading scale for this course. The instructor reserves the right to change the final grading scale based on the distribution of class scores at the end of the term.

Letter Grade	Number Grade
A+	> 97
A	93-96
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	< 60

Pass/No Pass grades:

Instructors are required to submit letter grades for all students. If you registered P/NP for the course, the College will change your letter grade to the appropriate Pass (C or above) or No Pass (C- or below). Instructors have no control over this process so if you have a problem, please visit the College Advisors.

Academic Misconduct Policy:

Psychological & Brain Sciences Instructors who have reasonable evidence of academic misconduct both report misconduct to the UCSB Office of Judicial Affairs and forward such reports to the OJA Conduct Committee. This allows the OJA to conduct an evidentiary hearing that may clear the student or may compellingly establish misconduct. If academic misconduct is established, the OJA, not the Instructor, decides the consequences other than the course grade, which is conferred by the Instructor.

Any work (written or otherwise) submitted to fulfill an academic requirement must represent a student's original work. Any work (written or otherwise) submitted to fulfill one academic requirement may not be submitted to fulfill another requirement, even if the course is being repeated. Any act of academic dishonesty, such as cheating or plagiarism, will subject a person to Department and University disciplinary action. Cheating includes, but is not limited to, looking at another student's examination, referring to unauthorized notes or other sources of information during an exam, providing or receiving test or exam or paper answers, multiple submission of the same work for different requirements, and having another person take an exam or write a paper for you. Representing the words, ideas, or concepts of another person without appropriate attribution is plagiarism. Whenever another person's written work is used, whether it is a single phrase or longer, quotation marks must be used and sources cited. Paraphrasing another's work, i.e., borrowing the ideas or concepts and putting them into one's "own" words, must also be acknowledged. http://www.sa.ucsb.edu/regulations/student_conduct.aspx

Reproduction of Course Materials.

All course materials (class lectures and discussions, handouts, examinations, Web materials) and the intellectual content of the course itself are protected by United States Federal Copyright Law, and the California Civil Code. UC Policy 102.23 expressly prohibits students (and all other persons) from recording lectures or discussions and from distributing or selling lectures notes and all other course materials without the prior written permission of the Instructor (see <http://policy.ucop.edu/doc/2710530/PACAOS-100>). Students are permitted to make notes solely for their own private educational use. Exceptions to accommodate students with disabilities may be granted with appropriate documentation. **To be clear, in this class students are forbidden from completing study guides and selling them to any person or organization.** This text has been approved by UC General Counsel.

Attendance

Attendance in this course is strongly encouraged. Attendance is the first step to success in a university setting, and being “present” mentally and physically in this class will position you for success on the tests. That being said, I understand that sometimes it is not possible to attend, whether due to sickness, flat tires, taking friends to the airport, family emergencies, and other reasons. Attendance in this course will be indexed using 30 iClicker questions interspersed throughout the lectures (~2-3 questions per lecture). For each six questions you respond to using your iClicker, you will receive one “extra credit” point which you may apply to either of your midterms or your final exam. If you answer all 30 questions, you will receive 5 points to disperse how you wish. To be clear, you will not be punished for missing questions—but those who show up and are engaged will be rewarded.

If you are unable to acquire an iClicker, alternate arrangements may be considered at the instructor’s discretion.

Extra Credit:

Aside from attendance points, no extra credit will be offered or awarded in this course.

Civility and Disruptions

Any student who is deemed to be behaving or communicating in a belligerent, abusive, threatening and/or inappropriate manner will be asked to leave the classroom. If for some reason the student offends a second time, they may not be allowed to return to the course. Lively engagement, with the subject matter is encouraged, but civility and respect are required.

The use of mobile and desktop electronic devices is permitted in the classroom, so long as it is not a distraction to those around you. Be aware, though, that use of mobile or desktop devices of any kind during a classroom lecture setting has been found to have detrimental effects on learning and educational outcomes. Students who multitask with media while learning tend to earn much lower grades than their peers who devote full attention. Your learning is your responsibility, but I reserve the right to require that students refrain from device use at any time. Refusal to adhere to this policy will be considered as inappropriate behavior as per the above paragraph.

Wellness Statement:

Personal concerns such as stress, anxiety, relationships, depression, cultural differences, can interfere with a student's ability to succeed and thrive. For helpful resources, please visit **Counseling & Psychological Services** at <http://caps.sa.ucsb.edu/> or at 805-893-4411 (24/7) or **Campus Advocacy Resource and Education (CARE)** at <http://wgse.sa.ucsb.edu/care/home>

If you are concerned about a friend, referrals to Student Mental Health Coordination Services can be submitted 24/7 by using the Gaucho Support & Outreach Referral Form at www.sa.ucsb.edu/REFERaGAUCHO

Academic Support:

You may wish to seek expert help on note-taking and test-taking techniques, or to cope with test anxiety. Campus Learning Assistant Services (CLAS) offers individual and group study skills and course-specific workshops. If you are interested, please contact CLAS at 893-4248 or visit <http://www.clas.ucsb.edu/>.

Disabled Student Support:

The Disabled Student Program (DSP), <http://dsp.sa.ucsb.edu/>, is available for all students who experience permanent or temporary medical issues while enrolled at UCSB. DSP is available to help students find reasonable accommodations when their condition may impact their success in a course. Students *must* enroll in DSP to receive any accommodations for coursework or exams. Registration can be completed online and should be done as soon as the student is aware there is a medical issue.

Gender/Sex Discrimination Policy and Student Support:

Under Title IX, university students are protected from harassment and discrimination based on gender and sex. If you, or another student, feels uncomfortable or in need of support at any time related to their gender, sex, and/or sexual orientation, please contact UCSB's Resource Center for Sexual and Gender Diversity <http://wgse.sa.ucsb.edu/RCSGD/home>

Change Statement

Please note that I reserve the right to change course policies, scheduling, and assignments at any time.