

BISC-230xg, **Biology of the Brain**

Spring Semester 2018

Course Description: This is a GE course (D, Life Sciences) designed for non-science majors and is not available for major credit. Topics to be considered include the structure and function of the brain of humans and other animals including the role of the brain plays in regulating a range of behaviors.

Instructor: Bruce Yazejian; yazejian@usc.edu
Office: HNB B20; 740-2220; by appointment

Laboratory Director: Michael Moore; moore@college.usc.edu
Office: 371B ZHS; 740-6084

Blackboard:
<https://blackboard.usc.edu>

Required Textbooks:
(MM): *The Mind's Machine* by Watson and Breedlove.
Publisher: Sinauer. ISBN: 9780878939336.
(SP): *Sensation and Perception* by Wolfe et. al.
Publisher: Sinauer ISBN: 9781605352114

Lectures: MW 12:00-1:50 PM, ZHS 252

PowerPoint slides of the lectures will be posted to Blackboard in advance of each class meeting. The contents of these slides will be drawn largely from the textbook readings but may also contain information from other sources. A successful learning strategy is to read over the lecture notes before class so that class time can be efficiently spent learning the material in greater depth.

Grading (there is no "extra credit" so please, don't ask):

Exam 1 (Wednesday, February 7)	75 points
Exam 2 (Wednesday, March 7)	75 points
Exam 3 (Wednesday, April 11)	75 points
Final Exam (Friday, May 4; 11AM - 1PM)	175 points
	(75 points for Exam 4 plus 100 points cumulative)
<u>Laboratory</u>	<u>100 points</u>
Total	500 points

Lecture Exams:

There will be four in-class exams that will consist of a mix of short-answer, multiple choice, true/false, fill-in-the-blank and matching type questions. Exams will cover information given in lectures only; laboratory performance will be covered separately in the labs (see below). The final exam will cover material since the third exam and will also have a cumulative portion covering the entire course. If you arrive late for an exam and another student has already finished their exam and left the exam room you will not be permitted to take the exam and will receive a score of zero for that exam.

Pass/No Pass Policy:

Students taking this course with the Pass/No Pass option must have a final score equivalent to "C minus" or better to receive a "Pass." "No Pass" will be assigned for final scores less than the equivalent of a "C minus."

Re-Grading of Exams:

If you wish to have one or more exam questions re-graded you must submit a *written* request within one week of when your exam was returned to you. The entire answer will be re-graded, not just the part you think deserves more credit. Your score may go up or down as a result of a re-grade.

Missed Exams:

No make-up exams will be given. Students who are unable to take an exam at the scheduled time must give written notification as soon as possible, preferably in advance. Students who miss an exam, assignment, quiz, etc. for a legitimate reason (*e.g.* a medical issue or a University-sanctioned event) must provide written documentation of said reason within seven days of the exam or assignment due date. Documentation must be sent to Dr. Moore. If documentation is not received within seven days the score for the missed assignment will be a zero. Upon receipt of valid documentation, the score for the missing assignment will be prorated. In other words, the score for the missed assignment will be the average of the score for the other like assignments. (For example, if exam 2 is missed, that score will become the average of exams 1, 3, and 4).

Final Grade Determination:

Grades will be assigned on a curve, based on the total number of points earned in the course. After each exam a curve will be given by the instructors to indicate roughly what letter grade corresponds to students' current number of points. Specifically, you will be provided with the current course average and a provisional letter grade scale. Please remember that the course mean provided on Blackboard is provisional as it is based on the number of points possible at that point in the course. Only the total number of points earned by the end of the semester will determine course grades.

Lecture Schedule:

Topics will be covered in the general order given below. Because this is a General Education course, it allows some flexibility. If a topic garners more interest, we may dwell on it longer than others of less interest.

Lecture #	Date	Topic	Reading
1	M 1/8	Introduction to and overview of the course	
2	W 1/10	How did we get here? (Evolution of the brain)	MM: Chapter 1
	M 1/15	Martin Luther King Holiday	
3	W 1/17	What's up there between our ears? (Structure and organization of the nervous system)	MM: Chapter 2 SP: Chapter 1
4	M 1/22	What exactly is that three pounds of flesh and how did it get that way? (Cells and development of the nervous system)	MM: Chapter 2 SP: Chapter 1
5	W 1/24	The brain is cordless and rechargeable (Electrical properties of neurons)	MM: Chapter 3 SP: Chapter 1
6	M 1/29	Neurons signal faster than you can drive (Neurophysiology)	MM: Chapter 3; SP: Chapter 1
7	W 1/31	Neurons have their own language (Synaptic transmission)	MM: Chapter 4
	M 2/5	Review for Exam 1	
	W 2/7	EXAM 1 (covers lectures 1-7)	
8	M 2/12	How did that feel? (The somatosensory system)	MM: Chapter 5 SP: Chapter 13
9	W 2/14	Say what? (Sound and hearing)	MM: Chapter 5 SP: Chapter 9,10
	M 2/19	Presidents Day Holiday	
10	W 2/21	Why rollercoasters are so much fun (The vestibular system)	MM: Chapter 5 SP: Chapter 12
11	M 2/27	What <i>is</i> that smell? (Olfactory system)	MM: Chapter 5 SP: Chapter 14
12	W 2/28	That sure is yummy! (Gustatory system)	MM: Chapter 5 SP: Chapter 15
	M 3/5	Review for Exam 2	
	W 3/7	EXAM 2 (covers lectures 8-12)	
13	M 3/19	The eyes have it (The visual system)	MM: Chapter 7 SP: Chapter 2,3
14	W 3/21	Can you see that? (it's right in front of you) (The retina and visual processing)	MM: Chapter 7 SP: Chapter 5

15	M 3/26	Is that what I think I see? (Perception of objects)	MM: Chapter 4
16	W 3/28	Two eyes are better than one (Binocular vision)	MM: Chapter 6
17	M 4/2	Pay attention, this <i>will</i> be on the exam (The importance of attention)	MM: Chapter 14 SP: Chapter 7
18	W 4/4	Wait, wasn't that here just a second ago? (Scene and motion perception)	SP: Chapter 8
	M 4/9	Review for Exam 3	
	W 4/11	EXAM 3 (covers lectures 13-18)	
19	M 4/16	I learn but do I remember? (Learning and Memory)	MM: Chapter 13
20	W 4/18	Wake me when it's over (Biological rhythms and sleep)	MM: Chapter 10
21	M 4/23	We have two brains (Language and the divided brain)	MM: Chapter 15
	W 4/25	TBA	
	F 5/4 11am-1pm	FINAL EXAM (covers lectures 19-23 (and also lectures 1-23))	

Academic conduct, students with disabilities:

Any student requesting academic accommodations based on a disability is required to register with the Office of Disability Services and Programs (DSP, STU 301, 213-740-0776) each semester. You must deliver an approved DSP letter to Dr. Moore early in the semester as possible. Please see SCampus (<http://www.usc.edu/dept/publications/SCAMPUS/>) for additional policies that are not covered here (i.e. academic integrity, proper conduct, etc.) but that do still apply.