

PSYCHOLOGY 381: BEHAVIORAL NEUROBIOLOGY

Winter 2018—Section 002
Mondays from 4pm to 6:30pm
Room: B124 MARB

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Location: Psych Central

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TA: Lauren Kauer
Email: lauren.engar28@gmail.com
Office Hours: Mondays 2pm to 4pm
Location: Psych Central

Required Text:

Foundations of Behavioral Neuroscience, 9th Edition By: Neil R. Carlson, Published by Pearson, 2014

Learning Outcomes:

1. The brain, experience, and behavior

Students will develop their understanding of how the brain influences one's experience of the world and one's behavior in it. *Measurement:* In-class quizzes and exams on assigned textbook reading. Students will also complete written reports and in-class presentations of self-selected articles from the scientific literature.

2. Scientific methods and behavioral neurobiology

Students will identify scientific methods, especially those of cognitive neuroscience, that are valuable in behavioral neurobiology. *Measurement:* In-class quizzes and exams on assigned textbook reading. Students will also complete written reports and in-class presentations of self-selected articles from the scientific literature.

3. Diseases, trauma, drug usage, hormones, and genes

Students will extend concepts and research findings to diseases, trauma, drug usage, hormones, and genes. *Measurement:* In-class quizzes and/or exams on assigned textbook reading, lectures, and class discussions and written reports and/or in-class presentations of self-selected articles from the scientific literature.

Course Requirements:

Class Preparation: I expect that you will read the material, as listed in the course schedule *prior to class*. This is expected so you will better understand the topic and in order for us to have more productive discussions in class. Reading before class will also help you better understand and retain the material. If you miss class, please (a) speak to a TA or myself and obtain notes from at least one trusted classmate, (b) check Learning Suite for any newly posted material, and (c) attend office hours for additional clarification when needed.

Class Attendance and Quizzes: Attendance is very important, as we will be dealing with issues and LOTS of examples not necessarily covered in the text. To help ensure attendance, quizzes will be used. Ten quizzes (worth 10 points each) will be administered throughout the semester. Quizzes will cover the reading assigned for that day as well as a question or two based on the previous week's lecture. ***WE WILL NOT DROP ANY QUIZ SCORES; HOWEVER, WE WILL BE FLEXIBLE WITH MAKE-UP QUIZZES IF YOU MISS A CLASS IF YOU INFORM US YOU WON'T BE IN CLASS BEFOREHAND.***

Exams: Exams will cover the readings, lectures, class discussion, and other areas as determined by the instructor. Exam format will be discussed in class prior to each test and may include multiple choice, true/false, matching, short answer, and essay responses. The mid-term exams will be administered in the Testing Center. The final exam will be administered in the classroom during our final exam time assigned by the university. I cannot administer the final exam at other times per university policy. *The final exam will focus on the last third of the class, but also has a large cumulative section.* I encourage you to contact the TAs or me for help when needed. There will be **no** test make-ups except under extreme conditions that require prior approval. Cheating of any kind will result in a lowered grade and other University sanctions. My door is open to discuss concerns before and after exams.

Review Sessions: The TAs will hold review sessions before the exams. Study guides will be posted on Learning Suite before the exams to help you study. I suggest you look over the study guides and come to the review sessions with questions from the study guides or material covered in class. The TAs will not come to the review session with anything “prepared” to discuss or be expected to go over the entire study guide, but they will be there to help answer any questions you have. The time of the review sessions will be determined in class.

Critical Review Paper: One way to solidify learning is through writing experiences. Thus, you will be required to write a critical review paper. The paper will be turned in to Learning Suite on the due date and time listed on the assignment rubric and posted to Learning Suite. *All papers will be run through TurnItIn Plagiarism Check software, so please be sure all aspects are original.* The paper will be an in-depth and critical look at a topic. The expected page length of this paper is **between 8 and 10 pages**, not including the cover page and references. I expect at least 7 different references and excellent topic sentences/thesis statements. The topic should be an in-depth and critical look at a specific research question. Some examples from past semesters include the veracity of repressed memories, a comparison of the neurobiological mechanisms underlying the treatment for postpartum depression, the existence of sex differences in visuospatial processing, etc. You will notice these topics can all have specific arguments that can be reviewed. ***I want you to present different sides of an argument in this paper, then take a stand and back up your viewpoint with research.*** This is a very important skill for graduate and professional school. Please see the assignment rubric for specific details and grading instructions.

Extra Credit: You can earn up to **10 points** of extra credit. There are two options for extra credit. First, extra credit can be earned for being a participant in research projects. If you sign up for study participation on SONA I will receive a report at the end of the semester detailing your participation. Per department policy, ten minutes of research participation is equal to 1 SONA credit. For this class, each SONA credit is worth one point up to 10 points (i.e., ~2 hours of research for 10 points). For the second option, five points extra credit can be earned for turning in a two-page, double-spaced (12-point font) summary of a peer-reviewed journal article that is about behavioral neurobiology in some form (could be on the neural bases of memory, an EEG article, or an article using fMRI methods as examples.). You can complete two of these for a total of 10 extra credit points. I may also have periodic extra credit assignments or opportunities to attend campus events or speakers as these are available. ***You can turn in extra credit throughout the semester, but it is formally due by 4pm on the last day of class. You will turn extra credit assignments in to me at michael.larson@byu.edu.***

Class Content:

The information we will be discussing in class is sometimes of a sensitive nature. It is almost inevitable that one or more of the students in the class, you, or someone dear to you, experiences a condition we'll cover during class time. Some may find the images and other material included in this course to be disturbing. Others may experience strong reactions to some course topics; hopefully all of you find it informative and valuable. Respect and courtesy in discussions and comments is of the

utmost importance. We will discuss the biology of some mental disorders frankly, but always keep in mind the sensitive nature of the topics. This includes using careful, thoughtful discretion if you have personal experiences that relate to the topic at hand and you decide to share them. If you have any hesitation about taking this class (or attending certain lecture topics) please meet with me before the add/drop deadline to discuss your concerns.

Grading Policy:

	Points Possible	% of Grade
Exams	550	75.9%
Exam I	150	
Exam II	150	
Final Exam	250	
Critical Review Paper	75	10.3%
Quizzes (In Class)	100	13.8%
CLASS TOTALS	725 Total	100% Total

Your grade will be calculated on the number of points you earn from examinations, quizzes, paper, and extra credit divided by the total number of points possible. *A general rule of thumb for undergraduate college courses is "2-3 hours of study out of class for every hour in class".* A 'C' is an acceptable grade and a 'B' a very good grade, while an 'A' represents an outstanding level of accomplishment even in comparison with peers who are often excellent students. We will award grades of C-, D, UW, or E only after individual consideration concerning whether the student's performance in the course merits such a grade.

A	93.0-100%	C	73.0-77.9%
A-	90.0-92.9%	C-	70.0-72.9%
B+	88.0-89.9%	D+	68.0-69.9%
B	83.0-87.9%	D	63.0-67.9%
B-	80.0-82.9%	D-	60.0-62.9%
C+	78.0-79.9%	E	59.9 & < %

Policy on Late Work:

You will lose 4 points for each day late up to two days late beginning at 4pm on the day the assignments are due. **ALL ASSIGNMENTS ARE DUE AT 4PM ON THE DUE DATE.** Please do not turn in assignments late. Dr. Larson or the TAs must clear any extenuating circumstances for late work **BEFORE** the due date arrives; otherwise, assignments will still be treated as late and the aforementioned policy will be applied. Since you can turn your work in late for a reduced score, there will be NO make-up assignments provided.

BYU Honor Code:

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and every instructor's expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Preventing and Responding to Sexual Misconduct:

In accordance with Title IX of the Education Amendments of 1972, Brigham Young University prohibits unlawful sex discrimination against any participant in its education programs or activities. The university

also prohibits sexual harassment-including sexual violence-committed by or against students, university employees, and visitors to campus. As outlined in university policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual Misconduct" prohibited by the university.

University policy requires all university employees in a teaching, managerial, or supervisory role to report all incidents of Sexual Misconduct that come to their attention in any way, including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Incidents of Sexual Misconduct should be reported to the Title IX Coordinator at t9coordinator@byu.edu or (801) 422-8692. Reports may also be submitted through EthicsPoint at <https://titleix.byu.edu/report> or 1-888-238-1062 (24-hours a day).

BYU offers confidential resources for those affected by Sexual Misconduct, including the university's Victim Advocate, as well as a number of non-confidential resources and services that may be helpful. Additional information about Title IX, the university's Sexual Misconduct Policy, reporting requirements, and resources can be found at <http://titleix.byu.edu> or by contacting the university's Title IX Coordinator.

Students with Disabilities:

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 422-2767. Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. The UAC can also assess students for learning, attention, and emotional concerns. Services are coordinated with the student and instructor by the UAC. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

Plagiarism Policy:

Intentional plagiarism is a form of intellectual theft that violates widely recognized principles of academic integrity as well as the Honor Code. Such plagiarism may subject the student to appropriate disciplinary action administered through the university Honor Code Office, in addition to academic sanctions that may be applied by an instructor. Inadvertent plagiarism, which may not be a violation of the Honor Code, is nevertheless a form of intellectual carelessness that is unacceptable in the academic community.

Plagiarism of any kind is completely contrary to the established practices of higher education where all members of the university are expected to acknowledge the original intellectual work of others that is included in their own work. In some cases, plagiarism may also involve violations of copyright law. Intentional Plagiarism-Intentional plagiarism is the deliberate act of representing the words, ideas, or data of another as one's own without providing proper attribution to the author through quotation, reference, or footnote. Inadvertent Plagiarism-Inadvertent plagiarism involves the inappropriate, but non-deliberate, use of another's words, ideas, or data without proper attribution. Inadvertent plagiarism usually results from an ignorant failure to follow established rules for documenting sources or from simply not being sufficiently careful in research and writing. Although not a violation of the Honor Code, inadvertent plagiarism is a form of academic misconduct for which an instructor can impose appropriate academic sanctions. Students who are in doubt as to whether they are providing proper attribution have the responsibility to consult with their instructor and obtain guidance. Examples of plagiarism include: Direct Plagiarism-The verbatim copying of an original source without acknowledging the source. Paraphrased Plagiarism-The paraphrasing, without acknowledgement, of ideas from another that the reader might mistake for the author's own. Plagiarism Mosaic-The borrowing of words, ideas, or data from an original source and blending this original material with one's own without acknowledging the source. Insufficient Acknowledgement-The partial or incomplete attribution of words, ideas, or data from an original source. Plagiarism may occur with respect to unpublished as well as published material. Copying another

student's work and submitting it as one's own individual work without proper attribution is a serious form of plagiarism.

Mental Health

Mental health concerns and stressful life events can affect students' academic performance and quality of life. BYU Counseling and Psychological Services (CAPS, 1500 WSC, 801-422-3035, caps.byu.edu) provides individual, couples, and group counseling, as well as stress management services. These services are confidential and are provided by the university at no cost for full-time students. For general information please visit <https://caps.byu.edu>; for more immediate concerns please visit <http://help.byu.edu>.

Disclaimer:

Dr. Larson reserves the right to make changes in (a) the course schedule, (b) course requirements, (c) the course grading procedures, and/or any other aspects of the course at any time. Any alterations will be circumspect and will be made in the best interests of the students, the course, and the professor.

Date	Topic	Readings Due	Assignments
01/08	Introduction, Paper Instructions, Higher Cortical Functions	Chapter 1	
01/15	No Class: MLK Day	No Class	No Class
01/22	Structure/Function of Action Potential	Chapter 2	Quiz #1
01/29	Structure/Function of Nervous System & Neuroanatomy	Chapter 3	Quiz #2
02/05	TA Review Session: Action Potential, Neuroanatomy, and TA Meetings about Paper	No Reading	This is an optional review day
02/12	Neurotransmitters/Psychopharmacology	Chapter 4	Quiz #3
02/13-02/15	EXAM #1: Chapters 1 – 4 and Neuroanatomy	Testing Center	Late Day on Friday 02/16
02/19	No Class: President's Day	Class on Tuesday	Class on Tuesday
02/20	<i>THIS IS A TUESDAY!</i> Neuroscience Research Methods	Chapter 5	No Quiz
02/26	Learning and Memory	Chapter 12	Quiz #4
03/05	Language and Communication	Chapter 13	Quiz #5
03/12	Emotion	Chapter 10	Critical Review Paper Due by 4pm
03/19	Neurological Disorders	Chapter 14	Quiz #6
03/20 – 03/22	EXAM 2: Chapters 5,10,12,13,14	Testing Center	Late Day on Friday 03/23
03/26	Schizophrenia, Mood Disorders, and Placebo	Chapter 15	Quiz #7
04/02	Neuroscience of Eating	Chapter 11	Quiz #8
04/09	Sleep and Biological Rhythms	Chapter 8	Quiz #9
04/16	Sex, Love, Reproduction and Attraction	Chapter 9	Quiz #10 Extra Credit Due by 4pm
04/23 5:45 to 7:45pm	FINAL EXAM: Cumulative, but weighted toward 8,9,11,15	In Classroom beginning at 5:45pm	No Late Day