

PSYCH 381 - Behavioral Neurobiology

Fall 2018

Section 001: 131 MARB on T Th from 12:05 pm - 1:20 pm

Instructor/TA Info

Instructor Information

Name: Derin Cobia

Office Location: 1036 KMBL

Office Phone: 801-422-9497

Email: derin_cobia@byu.edu

TA Information

Name: Chaz Rich

Office Location: Psych Central

Office Phone: 8605762629

Office Hours: Tue, Wed 8:00am-10:00am

Or By Appointment

Email: chazarich@gmail.com

Name: Holly Paxton

Email: hollypax10@gmail.com

Course Information

Description

The purpose of this course is to introduce principles of neuroscience by developing foundational knowledge in the basic physiological, anatomical, and chemical bases of behavior. By the end of the course students will be able to explain how the brain influences the way we think, feel and act by describing the functions of these systems. An important overarching goal for the course is to generate enthusiasm for the application of brain science on the broader human experience.

Prerequisites

PSYCH 307

PSYCH 309

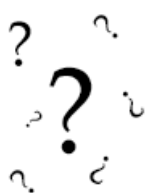
PSYCH 310; or NEURO 205

or Instructor's consent

Materials

Item

Price (new) Price



Intro To Brain & Behavior 5E - Required
by Kolb, B

218.73

164.05

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/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.

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/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.

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.

Grading Scale

Grades	Percent
P	100%
F	0%

Grading Policy

Progress through the course will be determined by the following:

Quizzes: (15%) Quizzes on the reading material will be given weekly at the end of class. There will be a total of 14 quizzes; however, the 2 lowest scoring ones will be dropped to account for excused/unexcused absences.

Thought Questions: (10%) The purpose of this assignment is to help discover and critique your current beliefs or opinions about the brain/behavior. At the beginning of select class periods, you will be asked to write briefly (~3 minutes) about a particular topic, after which there will be a class discussion on responses. There will be 3 Thought Questions throughout the course, written responses are turned in to the TA to receive credit.

Neuroscience in the News: (15%) This assignment is designed to help you see the influence of neuroscience around you. To complete it, find and review an article in the news media (legitimate sources please, no BuzzFeed) that is neuroscience-related (see topics in our text if you are unsure if it

qualifies). It is likely there is a research article associated with the story that you must also look up and read. Then, write a one-page (double-spaced, 12 pt font, 1-inch margin) report that answers the following questions:

- What principle or aspect of behavioral neuroscience does it discuss (e.g., memory, addiction, reward, neurologic/psychiatric disease, etc)?
- What are the main findings of the research?
- What is the value of the findings as it pertains to the public good?
- Why do you think the topic was of sufficient interest to make to the lay media (remember, not all science is interesting to them)?

Make sure and cite your sources; see examples of both strong and poor versions of this assignment under the 'Content' portion of LS

Exam 1: (20%) A 100 question exam consisting of multiple choice and T/F questions on materials covering Chapters 1-6.

Exam 2: (20%) A 100 question exam consisting of multiple choice and T/F questions on materials covering Chapters 7-11.

Final Exam: (20%) The final will be 100 questions and similar in format to the other exams, but cover material from Chapters 12-16.

Extra Credit: (10 pts total)

- Various neuroscience-related seminars and conferences will happen throughout the semester that you can attend for extra credit. To receive credit, send an email to me/TAs when the event starts to check in; once over, write and email a short paragraph about the lecture and some interesting things you learned. There will be a list of these events on Learning Suite as they are scheduled. (2 pts each, maximum of 6 pts).
- You may write up one extra Neuroscience in the News article (submit via LS) for an extra 4 pts.
- *Remember*, raw points and percentage points are not the same thing. Your final grade is based on a percentage, which will be based on the number of points you earned. For example: a percentage of 79.2% (or 'C+') for the course is only 0.8 percentage points from 80% (or a 'B'). Seems small, right? However, based on the conversion between raw and percentage points, it would take 4 extra raw points in order to make up that gap. In other words, 4 extra correct questions on an exam, or 4 more points on an assignment would be equal to 0.8 percentage points.

Participation Policy

I have an expectation that students will read assigned chapters/materials, as listed on the course schedule, *prior to class*. This is in an effort to enhance your learning and promote class discussion. I encourage questions in class with the aim of clarifying and expounding important topics relevant to course material, don't be afraid to speak up! Also, I may occasionally call on a student during class to answer a question, so be prepared.

Attendance Policy

Attendance is expected as we will be discussing information and examples not necessarily covered in the text. In addition, Quizzes and the Thought Question assignments are also given in class **only** on a weekly basis. If you happen to miss one of those days, the points can be made up with extra credit (or 2 dropped in the case of quizzes).

Illness: If you become ill and are unable to attend class please contact another student or the TA to find out what you missed. If you cannot take an exam or turn in an assignment on time *due to illness* please let me know ASAP.

Classroom Procedures

Electronics Use Policy:

I welcome the use of laptops/tablets in class to help you take notes or augment our discussion, although I have a strong rationale for not using them (see <http://bit.ly/2eyc4UI> and <http://bit.ly/2ibOnn7>). Beyond that, personal digital communication in class (including but not limited to internet surfing, use of social media, personal communications such as email/text/tweet) is disruptive for students sitting around you and has been shown to negatively impact not only your grade but also your neighbors' grade. Part of the BYU Honor Code is to respect others, one simple way to show respect to your classmates and instructor is to refrain from using electronic devices in inappropriate and distracting ways in class. Persons engaging in such activities will be dismissed from the lecture. Repeated violations of this policy will result in a reduction in the course grade to be determined by the professor. If this becomes a wider problem, I reserve the right to ban electronic devices for all students except those with documented need for such classroom accommodations.

Our Agreement:

- You have read and understood the contents of the syllabus for the course and agree to abide by the rules, guidelines and schedule contained within it
- You will consult the syllabus if you have a question about the course rules, guidelines, and schedule
- You understand special exceptions cannot be made for you without being unfair to everyone else in the course
- The schedule represents a minimally flexible agenda of class topics and reading assignments.
I reserve the right to make changes to any of these elements that will be in the best interest of the student and course.

Assignments

Assignment Descriptions

Quiz 1

Sep
06

Due: Thursday, Sep 06 at 11:59 pm

Quiz on Chapters 1 & 2

Quiz 2

Sep
13

Due: Thursday, Sep 13 at 11:59 pm

Quiz on Chapter 3

Quiz 3

Sep
20

Due: Thursday, Sep 20 at 11:59 pm

Quiz on Chapter 4

Quiz 4

Sep
27

Due: Thursday, Sep 27 at 11:59 pm

Quiz on Chapter 5

Thought Question 1

Oct
02

Due: Tuesday, Oct 02 at 11:59 pm

Thought question 1 - need to be in class this day to receive credit!

Quiz 5

Oct
04

Due: Thursday, Oct 04 at 11:59 pm

Quiz on Chapter 6

Exam 1

Oct
09

Due: Tuesday, Oct 09 at 9:00 pm

A 100 question exam consisting of multiple choice and T/F questions on materials covering Chapters 1-6 of the text, will be taken at the Testing Center.

Quiz 6

Oct
11

Due: Thursday, Oct 11 at 11:59 pm

Quiz on Chapter 7

Quiz 7

Oct
18

Due: Thursday, Oct 18 at 11:59 pm

Quiz on Chapter 8

NeuroInTheNews 1

Oct
18

Due: Thursday, Oct 18 at 11:59 pm

Brief research report #1, see syllabus for instructions.

Quiz 8

Oct
25

Due: Thursday, Oct 25 at 11:59 pm

Quiz on Chapters 9 & 10

Quiz 9

Nov
01

Due: Thursday, Nov 01 at 11:59 pm

Quiz on Chapter 11

Thought Question 2

Nov
06

Due: Tuesday, Nov 06 at 11:59 pm

Thought question 2 - need to be in class this day to receive credit!

Exam 2

Nov
07

Due: Wednesday, Nov 07 at 9:00 pm

A 100 question exam consisting of multiple choice and T/F questions on materials covering Chapters 7-11 of the text, will be taken at the Testing Center.

Quiz 10

Nov
08

Due: Thursday, Nov 08 at 11:59 pm

Quiz on Chapter 12

Quiz 11

Nov
15

Due: Thursday, Nov 15 at 11:59 pm

Quiz on Chapter 13

Quiz 12

Nov
29

Due: Thursday, Nov 29 at 11:59 pm

Quiz on Chapter 14

NeuroInTheNews 2

Dec
06

Due: Thursday, Dec 06 at 11:59 pm

Brief research report #2, see syllabus for instructions.

Quiz 13

Dec
06

Due: Thursday, Dec 06 at 11:59 pm

Quiz on Chapter 15

Thought Question 3

Dec
11

Due: Tuesday, Dec 11 at 11:59 pm

Thought question 3 - need to be in class this day to receive credit!

Extra Credit

Dec
13

Due: Thursday, Dec 13 at 11:59 pm

Extra Credit points for writing one extra "Neuroscience in the News" report (upload to LS, +4) and attending neuroscience seminars (+2 each, up to +6 total).

Quiz 14

Dec
13

Due: Thursday, Dec 13 at 11:59 pm

Quiz on Chapter 16

Final Exam

Dec
15

Due: Saturday, Dec 15 at 2:00 pm

A 100 question exam consisting of multiple choice and T/F questions on material covering Chapters 12-16 of the text, will be taken during finals in class.

University Policies

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 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> (<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> (<http://titleix.byu.edu>) or by contacting the university's Title IX Coordinator.

Student Disability

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.

Academic Honesty

The first injunction of the Honor Code is the call to "be honest." Students come to the university not only to improve their minds, gain knowledge, and develop skills that will assist them in their life's work, but also to build character. "President David O. McKay taught that character is the highest aim of education" (The Aims of a BYU Education, p.6). It is the purpose of the BYU Academic Honesty Policy to assist in fulfilling that aim. BYU students should seek to be totally honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including but not limited to plagiarism, fabrication or falsification, cheating, and other academic misconduct.

Inappropriate Use Of Course Materials

All course materials (e.g., outlines, handouts, syllabi, exams, quizzes, PowerPoint presentations, lectures, audio and video recordings, etc.) are proprietary. Students are prohibited from posting or selling any such course materials without the express written permission of the professor teaching this course. To do so is a violation of the Brigham Young University Honor Code.

Respectful Environment

"Sadly, from time to time, we do hear reports of those who are at best insensitive and at worst insulting in their comments to and about others... We hear derogatory and sometimes even defamatory comments about those with different political, athletic, or ethnic views or experiences. Such behavior is completely out of place at BYU, and I enlist the aid of all to monitor carefully and, if necessary, correct any such that might occur here, however inadvertent or unintentional. "I worry particularly about demeaning comments made about the career or major choices of women or men either directly or about members of the BYU community generally. We must remember that personal agency is a fundamental principle and that none of us has the right or option to criticize the lawful choices of another." President Cecil O. Samuelson, Annual University Conference, August 24, 2010 "Occasionally, we ... hear reports that our female faculty feel disrespected, especially by students, for choosing to work at BYU, even though each one has been approved by the BYU Board of Trustees. Brothers and sisters, these things ought not to be. Not here. Not at a university that shares a constitution with the School of the Prophets." Vice President John S. Tanner, Annual University Conference, August 24, 2010

Schedule

Date	Topic	Reading	Due
Week 1			
T Sep 04 Tuesday	Course Introduction and Review of Syllabus What Are the Origins of Brain and Behavior?	Chapters 1 & 2	
Th Sep 06 Thursday	What is the Nervous System's Functional Anatomy?	Chapter 2	Quiz 1
Week 2			
T Sep 11 Tuesday	What Are the Nervous System's Functional Units	Chapter 3	
Th Sep 13 Thursday	What Are the Nervous System's Functional Units	Chapter 3	Quiz 2
Week 3			
T Sep 18 Tuesday	How Do Neurons Use Electrical Signals to Transmit Information?	Chapter 4	
Th Sep 20 Thursday	How Do Neurons Use Electrical Signals to Transmit Information?	Chapter 4	Quiz 3

Week 4			
T Sep 25 Tuesday	How Do Neurons Communicate and Adapt?	Chapter 5	
Th Sep 27 Thursday	How Do Neurons Communicate and Adapt?	Chapter 5	Quiz 4
Week 5			
T Oct 02 Tuesday	How Do Drugs and Hormones Influence the Brain and Behavior?	Chapter 6	Thought Question 1
Th Oct 04 Thursday	How Do Drugs and Hormones Influence the Brain and Behavior?	Chapter 6	Quiz 5
F Oct 05 Friday			Exam 1 Opens
Week 6			
T Oct 09 Tuesday	How Do We Study the Brain's Structure and Functions?	Chapter 7	Exam 1 Closes
Th Oct 11 Thursday	How Do We Study the Brain's Structure and Functions?	Chapter 7	Quiz 6
Week 7			
T Oct 16 Tuesday	How Does the Nervous System Develop and Adapt?	Chapter 8	
Th Oct 18 Thursday	How Does the Nervous System Develop and Adapt?	Chapter 8	Quiz 7 NeuroInTheNews 1
Week 8			
T Oct 23 Tuesday	How Do We Sense, Perceive, and See the World?	Chapter 9	
Th Oct 25 Thursday		Chapter 10	Quiz 8

	How Do We Hear, Speak, and Make Music?		
Week 9			
T Oct 30 Tuesday	How Does the Nervous System Respond to Stimulation and Produce Movement?	Chapter 11	
Th Nov 01 Thursday	How Does the Nervous System Respond to Stimulation and Produce Movement?	Chapter 11	Quiz 9
Week 10			
M Nov 05 Monday			Exam 2 Opens
T Nov 06 Tuesday	What Causes Emotional and Motivated Behavior?	Chapter 12	Thought Question 2
W Nov 07 Wednesday			Exam 2 Closes
Th Nov 08 Thursday	What Causes Emotional and Motivated Behavior?	Chapter 12	Quiz 10
Week 11			
T Nov 13 Tuesday	Why Do We Sleep and Dream?	Chapter 13	
Th Nov 15 Thursday	Why Do We Sleep and Dream?	Chapter 13	Quiz 11
Week 12			
T Nov 20 Tuesday	Friday Instruction		
Th Nov 22 Thursday	Thanksgiving Holiday		
Week 13			
T Nov 27 Tuesday	How Do We Learn and Remember?	Chapter 14	
Th Nov 29 Thursday	How Do We Learn and Remember?	Chapter 14	Quiz 12

Week 14			
T Dec 04 Tuesday	How Does the Brain Think?	Chapter 15	
Th Dec 06 Thursday	How Does the Brain Think?	Chapter 15	Quiz 13 NeuroInTheNews 2
Week 15			
T Dec 11 Tuesday	What Happens When the Brain Misbehaves?	Chapter 16	Thought Question 3
Th Dec 13 Thursday	What Happens When the Brain Misbehaves?	Chapter 16	Extra Credit Quiz 14
F Dec 14 Friday	Fall Exam Preparation (12/14/2018 - 12/14/2018)		
Sa Dec 15 Saturday	First Day of Fall Final Exams (12/15/2018 - 12/20/2018) Final Exam: 131 MARB 11:00am - 2:00pm		Final Exam