

PSYCH 381 - Behavioral Neurobiology

Spring 2018

Section 001: 270 KMBL on T Th from 1:30 pm - 4:00 pm

Instructor/TA Info

Instructor Information

Name: Derin Cobia

Office Location: 1036 SWKT

Email: derin_cobia@byu.edu

TA Information

Name: Chaz Rich

Office Location: 1053 JFSB

Office Phone: 860-576-2629

Office Hours: Tue, Thu 12:00pm-1:15pm

Or By Appointment

Email: chazarich@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 (used)
<u>INTRO TO BRAIN & BEHAVIOR 5E</u> - <i>Required</i>	218.73	164.05



by KOLB, B

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, but 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, and then share with a neighbor; after the lecture there will be a class discussion on responses. There will be 3 Thought Questions throughout the semester, each is turned in to the TA for credit after completion at the end of class.

Neuroscience in the News: (15%) This assignment will help you see the influence of neuroscience around you. Find and review a story in the media (legitimate sources) that is neuroscience-related; likely there is a research article associated with the story that you must also look up and read. 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 the media?

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)

- You may present your Neuroscience in the News assignment to the class for an extra 4 pts; the sign-up sheet is available in LS under "Content"
- You may also write up an additional Neuroscience in the News article (submit via LS) for an extra 6 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 weekly. 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:

Do not use electronic devices in inappropriate and distracting ways during class. Examples include:

- Internet - social media, shopping, random surfing, etc.
- Texting
- Playing games
- **Cell phone is prohibited** during class

Use of laptops/tablets in class to help you take notes or augment our discussion (e.g., looking up relevant information on Wikipedia) is permitted, although I have a rationale for not using them (see <http://bit.ly/2eyc4UI> and <http://bit.ly/2ibOnn7>). I will, however, ban the use of electronics in class if they are used inappropriately.

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

May
01 Due: Tuesday, May 01 at 11:59 pm

Quiz on Chapters 1 & 2

Quiz 2

May
03 Due: Thursday, May 03 at 11:59 pm

Quiz on Chapter 3

Quiz 3

May
08 Due: Tuesday, May 08 at 11:59 pm

Quiz on Chapter 4

Quiz 4

May
10 Due: Thursday, May 10 at 11:59 pm

Quiz on Chapter 5

Quiz 5

May
15 Due: Tuesday, May 15 at 11:59 pm

Quiz on Chapter 6

Thought Question 1

May
15

Due: Tuesday, May 15 at 11:59 pm

Thought question 1

Quiz 6

May
17

Due: Thursday, May 17 at 11:59 pm

Quiz on Chapter 7

Exam 1

May
19

Due: Saturday, May 19 at 9:00 pm

Quiz 7

May
22

Due: Tuesday, May 22 at 11:59 pm

Quiz on Chapter 8

NeuroInTheNews 1

May
22

Due: Tuesday, May 22 at 11:59 pm

Brief research report #1

Quiz 8

May
24

Due: Thursday, May 24 at 11:59 pm

Quiz on Chapters 9 & 10

Thought Question 2

May
29

Due: Tuesday, May 29 at 11:59 pm

Thought question 2

Quiz 9

May

29

Due: Tuesday, May 29 at 11:59 pm

Quiz on Chapter 11

Quiz 10

May

31

Due: Thursday, May 31 at 11:59 pm

Quiz on Chapter 12

Exam 2

Jun

02

Due: Saturday, Jun 02 at 9:00 pm

Quiz 11

Jun

05

Due: Tuesday, Jun 05 at 11:59 pm

Quiz on Chapter 13

Quiz 12

Jun

07

Due: Thursday, Jun 07 at 11:59 pm

Quiz on Chapter 14

Quiz 13

Jun

12

Due: Tuesday, Jun 12 at 11:59 pm

Quiz on Chapter 15

Thought Question 3

Jun

12

Due: Tuesday, Jun 12 at 11:59 pm

Thought question 3

Quiz 14

Jun

14

Due: Thursday, Jun 14 at 11:59 pm

Quiz on Chapter 16

NeuroInTheNews 2

Jun
14

Due: Thursday, Jun 14 at 11:59 pm

Extra Credit

Jun
14

Due: Thursday, Jun 14 at 11:59 pm

Extra Credit points for presenting one "Neuroscience in the News" report (+4) or writing up an additional NITN report (upload via LS).

Final Exam

Jun
21

Due: Thursday, Jun 21 at 1:00 pm

Final Exam covering Chapters 12-16

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 May 01 Tuesday	Course Introduction and Review of Syllabus What Are the Origins of Brain and Behavior? What is the Nervous System's Functional Anatomy?	Chapters 1 & 2	Quiz 1
Th May 03 Thursday	What is the Nervous System's Functional Anatomy?	Chapter 2 Chapter 3	Quiz 2
Su May 06 Sunday			
Week 2			
T May 08 Tuesday	How Do Neurons Use Electrical Signals to Transmit Information?	Chapter 4	Quiz 3
Th May 10 Thursday	How Do Neurons Communicate and Adapt?	Chapter 5	Quiz 4
Su May 13 Sunday			
Week 3			
T May 15 Tuesday	How Do Drugs and Hormones Influence the Brain and Behavior?	Chapter 6	Quiz 5 Thought Question 1
Th May 17 Thursday	How Do We Study the Brain's Structure and Functions?	Chapter 7	Quiz 6 Exam 1 Opens
Sa May 19 Saturday			Exam 1 Closes
Su May 20 Sunday			
Week 4			
T May 22 Tuesday	How Does the Nervous System Develop and Adapt?	Chapter 8	Quiz 7 NeuroInTheNews 1

	How Does the Nervous System Develop and Adapt?		
Th May 24 Thursday	How Do We Sense, Perceive, and See the World? How Do We Hear, Speak, and Make Music?	Chapter 10 Chapter 9	Quiz 8
Su May 27 Sunday			
Week 5			
M May 28 Monday	Memorial Day		
T May 29 Tuesday	How Does the Nervous System Respond to Stimulation and Produce Movement?	Chapter 11	Quiz 9 Thought Question 2
Th May 31 Thursday	What Causes Emotional and Motivated Behavior?	Chapter 12	Quiz 10 Exam 2 Opens
Sa Jun 02 Saturday			Exam 2 Closes
Su Jun 03 Sunday			
Week 6			
T Jun 05 Tuesday	Why Do We Sleep and Dream?	Chapter 13	Quiz 11
Th Jun 07 Thursday	How Do We Learn and Remember?	Chapter 14	Quiz 12
Week 7			
T Jun 12 Tuesday	How Does the Brain Think?	Chapter 15	Thought Question 3 Quiz 13
Th Jun 14 Thursday	What Happens When the Brain Misbehaves?	Chapter 16	Extra Credit NeuroInTheNews 2 Quiz 14
Su Jun 17 Sunday			
Week 8			
M Jun 18 Monday			
T Jun 19 Tuesday	Spring Exam		

	Preparation (06/19/2018 - 06/19/2018)		
W Jun 20 Wednesday	First Day of Spring Final Exams (06/20/2018 - 06/21/2018)		
Th Jun 21 Thursday			Final Exam