

Neuroscience 380: Behavioral Neuroscience

Fall 2009 – Section 001
Monday and Wednesday 1:00-2:15
374 MARB

Instructor:	C. Brock Kirwan, PhD	TA:	Andrew Hartshorn
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Office:	SWKT 1052	Office:	SWKT 1053
Office Hours:	Tue 1-2 & By Appointment	Office Hours:	By Appointment

Required Text:

Biopsychology, 7th Edition by John P.J. Pinel, Published by Allyn and Bacon (ISBN:0-205-54892-X)

Prerequisites for this Course:

NEURO 205; Major in Neuroscience

Course Learning Outcomes:

1. Students will gain factual knowledge of the brain systems and neurotransmitters and the behavior processes that they control.
2. Students will understand how various diseases and trauma to the nervous system affect behavior.
3. Students will learn the basic psychotropic drugs, how they affect behavior, and be able to apply this knowledge as to when such drugs would be useful.
4. Students will learn how to use the various methods and approaches used to the study of the relationship between the brain, hormones, and neurotransmitters and behavior.
5. Students will critically analyze the interplay between genes and the environment and how they modify the brain and ultimately behavior.
6. Students will improve their ability to integrate personal values and belief systems with the principles of psychology and the biological bases of behavior.
7. Students will synthesize the material learned in class and be able to apply this material to unique situations. Students will demonstrate this through written assignments.

Readings:

The readings will be assigned from Pinel's *Biopsychology* and may be supplemented by pdf's posted to Blackboard. All assigned readings should be completed before the class for which they are assigned. I will prepare my lectures with the assumption that everyone has already read the relevant material. This will allow you to come prepared to ask questions and answer my questions in class.

BlackBoard:

All important course materials will be posted to BlackBoard and can be accessed via your regular Route Y account. Please check BlackBoard regularly in order to make sure you are current on assignments, grades, and other aspects of the course. Please ensure that communications sent via Blackboard are directed to your current valid email address.

Course Requirements:

Class Attendance: Attendance is required as we will be dealing with issues and examples not

necessarily covered in the text. To help ensure attendance, daily in-class quizzes will be used. Twenty-two quizzes (worth 10 points each) will be administered throughout the semester covering the text, discussion, or assigned readings. The lowest two quiz scores will be thrown out. I will learn your names and expect you will answer questions and offer comments on the material. If you miss class, please (a) speak to the TA or me and obtain notes from at least one trusted classmate, (b) check BlackBoard for any newly posted material, and (c) attend office hours for additional clarification when needed.

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. This will also help you better understand and retain the material. I will post the powerpoint slides on blackboard at least one day before each class to give you time to download the slides and bring them to class. I will also post a podcast of the lecture after class to give you a chance to review afterward.

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, matching, short answer, and essay responses. *The final exam will be cumulative, but will have a heavier focus on the final chapters covered in the course.* All exams will be administered in class. All exams will be 3-5 essay questions. One week prior to the exam, I will distribute a list of possible exam questions. The actual exam questions will be chosen from this list. I encourage you to form study groups to work on assignments and review exam material. This will help you in this class and create a model for effective study in graduate/medical school. I also encourage you to contact me or the TA 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.

Exam Dates

Exam #1: Wednesday, September 30th

Exam #2: Wednesday, November 4th

Final Exam: Tuesday, December 15th, 3-5pm, MARB 274

Grade Breakdown:

	Points Possible	% of Grade
Exams	550	73.3%
Exam 1	150	
Exam 2	150	
Final Exam	250	
Quizzes	200	26.7%
Total	750	100%

Grading Policy:

Your grade will be calculated on the number of points you earn from examinations, quizzes, and the paper 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 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	94.0-100%	C+	78.0-79.9%
A-	90.0-93.9%	C	73.0-77.9%
B+	88.0-89.9%	C-	70.0-72.9%
B	83.0-87.9%	D	60.0-69.9%
B-	80.0-82.9%	E	< 60 %

BYU Policies:

Plagiarism: It is an act of plagiarism to "borrow" ideas or quotes from former students' old papers and from the papers of students presently taking the course with you. Plagiarism also includes quoting or paraphrasing passages from any of your references without giving proper credit to the real authors (i.e., an APA-style citation), because doing so implies that this information came from you. Presenting the ideas of others as one's own is called plagiarism. Plagiarism, as defined by the BYU Honor Code, is a form of intellectual theft. It is an act of fraud; it is dishonest, deceitful, unethical, and can lead to serious and lasting negative consequences for your academic and professional career. For this reason, please follow the course guidelines for when and when not to read other 378 students' papers (including those from other sections) or have them read yours. In addition, please use only those sources that meet the course criteria for acceptable reference materials.[1]

Academic Honesty: While all students sign the honor code, there are still specific skills most

students need to master over time in order to correctly cite sources, especially in this new age of the internet; as well as deal with the stress and strain of college life without resorting to cheating. Please know that as your professor I will notice instances of cheating on exams or plagiarizing on papers. See <http://www.byu.edu/honorcode> for specific examples of intentional, inadvertent plagiarism, and fabrication, falsification.

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education. Title IX covers discrimination in programs, admissions, activities, and student-to-student sexual harassment. BYU's policy against sexual harassment extends not only to employees of the university but to students as well. If you encounter unlawful sexual harassment or gender based discrimination, please talk to your professor; contact the Equal Opportunity Office at 801-422-5895 or 801-422-5689 (24-hours); or contact the Honor Code Office at 801-422-2847.

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability that may impair your ability to complete this course successfully, please contact the University Accessibility Center located in 2170 WSC (801-422-2767). Reasonable academic accommodations are reviewed for all students who have qualified documented disabilities. Services are coordinated with the student and instructor by the SSD office. 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. You should contact the Equal Opportunity Office at 301-422-5895, D-282 ASB.

Student Learning Outcomes: Each program at BYU has developed a set of expected student learning outcomes. These will help you understand the objectives of the curriculum in the program, including this class. To learn the expected student outcomes for the programs in this department and college go to <http://learningoutcomes.byu.edu> and click on the College of Family, Home and Social Sciences and then this department. We welcome feedback on the expected student learning outcomes. Any comments or suggestions you have can be sent to FHSS@byu.edu.

Honor Code Standards: 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 my own 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 Discrimination or Harassment: Sexual discrimination or harassment (including student-to-student harassment) is prohibited both by the law and by Brigham Young University policy. If you feel you are being subjected to sexual discrimination or harassment, please bring your concerns to the professor. Alternatively, you may lodge a complaint with the Equal Employment Office (D-240C ASB) or with the Honor Code Office (4440).

Students with Disabilities: If you have a disability that may affect your performance in this course, you should get in touch with the University Accessibility Center (2170 WSC) 801-422-2767. This office can evaluate your disability and assist the professor in arranging for reasonable accommodations.

Flu policy: As are all large communities, BYU is preparing for the potential of the H1N1 influenza virus to spread rapidly throughout the campus during the coming winter. Details of BYU's preparation, and advice on what you can do to prepare, can be found at flu.byu.edu. Please read it! In order to contain any possible infection, the administration has advised course instructors to ask any student who is feeling sick with flu-like symptoms (fever with either sore throat or cough) to remain home, away from class and away from all large gatherings. Sick students should remain at home until at least 24 hours after the fever has gone away. Students should also call their doctor or the student health center for advice as soon as possible.

The administration has asked course instructors to provide adequate make-up opportunities for all work missed during a flu-like illness. Accordingly, I will allow all time as needed to miss class during an illness and to make up work at a reasonable time afterward, provided the student provides a doctor's note to document the illness. ALL students who feel sick with fever and sore throat or cough should call the doctor and visit if so advised. If advised to visit the doctor, please obtain a note whether or not you are diagnosed with the flu! When you are ill please call or email your TA or the instructor as soon as possible, and continue to communicate with us until you are well. You should also be in contact as much as possible with one or two class members, in order to keep up on what you miss. We will try to facilitate class communication from the beginning of the semester.

For your protection, your instructors will follow the same rules! If your instructor is sick he or she will try to find a replacement to carry the class forward, else will notify students as soon as possible about a class cancellation.

The Agreement:

By your continued enrollment in this course, you are agreeing to the following:

- You have read and understood the contents of the syllabus for Neuroscience 380: "Behavioral Neuroscience" and agree to abide by the rules, guidelines and schedule contained within it. In particular, you understand that Dr. Kirwan also agrees to abide by the rules, guidelines, and schedule in the syllabus.
- You will consult the syllabus if you have a question about the course rules, guidelines, and schedule.
- You understand that Dr. Kirwan cannot make special exceptions for you without being unfair to everyone else taking this course.
- You acknowledge that Dr. Kirwan 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	Reading (Chapter: Section)
M 08/31	Introduction	1, skim 2
W 09/02	The Nervous System	3:1-6
M 09/07	<i>NO CLASS – Labor Day Holiday</i>	
W 09/09	Neurons, Synapses & Neurotransmitters	4:1-7
M 09/14	Methods	5:1-8
W 09/16	Sensation & Perception: Vision	6:1-3
M 09/21	Sensation & Perception: Vision	6:4-6
W 09/23	Sensation & Perception: Visual Attention	7:5
M 09/28	Sensation & Perception: Audition	7:1-2
W 9/30	Exam 1	
M 10/05	Somatosensory System	7:3-4
W 10/07	Motor System & Movement	8:1-8
M 10/12	Neurodevelopment & Plasticity	9:1-5
W 10/14	Brain Damage & Recovery	10:1-5
10/19-21	<i>NO CLASS – Society for Neuroscience Conference</i>	
M 10/26	Amnesia	11:1-4
W 10/28	Learning and Memory	11:5-9
M 11/02	Predicting the Future	On Blackboard
W 11/4	Exam 2	
M 11/09	Motivation	12:1-7
W 11/11	Neuroendocrine System & Sex	13:1-6
M 11/16	Sleep	14:1-11
W 11/18	Drug Addiction	15:1-8
M 11/23	Lateralization & Split Brain	16:1-3
W 11/25	<i>NO CLASS – Thanksgiving Holiday</i>	
M 11/30	Language	16:4-7
W 12/02	Emotion	17:1-5
M 12/07	Psychopathology	18:1-5
W 12/09	Catch-up and Review	
Tue 12/15	FINAL EXAM (MARB 374, 3-5pm)	