

Biological Basis of Behavior
EDP 383 1 (10611)

Fall 2013
Friday 9:00-12:00
SZB 435

Instructor: Greg Allen, Ph.D.
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Course Description

The main objective of this course is to provide an overview of brain structure and function and the brain bases of behavior and disorders of behavior. Emphasis will be placed on current neuroscience research, particularly the use of imaging methods to increase our understanding of the human brain. Another major component of the course will be the role of brain abnormalities in commonly seen neurologic, psychiatric, and developmental disorders.

The format of the course will include lectures and discussion of assigned readings. The first part of the course will focus on the structure of the nervous system, with a primary emphasis on the functional organization of the brain, and the mechanisms underlying neural communication. This will be followed by a review of various functional systems of the brain and clinical disorders known to be associated with dysfunction of these systems.

Course Objectives

Full participation in this course will achieve the following goals:

- Students will develop a working knowledge of basic neuroanatomy and the functional organization of the brain.
- Students will understand the neurobiological basis of sensory, motor, emotional, and cognitive aspects of human behavior.
- Students will become familiar with a variety of disorders of the central nervous system.

Textbook

Carlson, N.R. (2013). *Physiology of Behavior* (11th edition). Pearson.

Activities and Expectations

1. Professionalism, Punctuality, and Participation

Professionalism. Professionalism includes such things as establishing and maintaining positive relationships and interactions with peers, colleagues, and instructors, attending respectfully to others who are sharing information with the class, being flexible and understanding in response to unforeseen changes in the class syllabus, etc. Examples of behaviors likely to result in a loss of professionalism points might include: sleeping in class, doing work that is unrelated to the course in class, talking excessively to your neighbor during lectures or when a classmate is asking a question, and making negative

or derogatory comments about others. Please ensure that cell phones are turned off prior to entering the classroom, as phone calls during class are generally disruptive to the instructional activities of the class. The use of laptop computers in class is restricted to taking notes or other class-related uses only.

Punctuality. Attendance and punctuality are key components of overall professionalism. Despite the challenges of highway gridlock and the juggling of personal and professional schedules, it is an expectation for this course that students will attend every class meeting and will arrive to class on time. Attendance in this class is particularly critical to mastering the course objectives, as many of the test questions will be taken from the class lectures. If an absence is expected, students should inform the professor in advance of the reason for the expected absence.

Participation. Students are expected to fully participate in all class activities, including lectures, discussions, and any collaborative learning activities. Student participation and discussion is a critical element of the course. Students will be expected to come to class well prepared to engage in scholarly discourse about the day's scheduled subject matter.

2. Tests

There will be three tests, each accounting for 20% of your final grade. Tests will be a combination of multiple choice, labeling, short answer, and short essay questions.

3. Review Sessions

You will have the opportunity to attend review sessions with your TA prior to each test. Prior to these sessions, you should send the TA questions you have about the material or specific topics you would like to review.

4. Feedback

I am always interested in improving my courses, and one of the best ways to improve a course is to listen and respond to criticism from students. Therefore, feedback is always welcome. Please do not be shy about letting me know how my teaching strategies are either helping or hindering your learning. I understand that direct feedback may be difficult for some, so we will provide the opportunity for anonymous feedback as well.

Grading

Punctuality, Participation, & Professionalism	20%
Tests (20% per test)	60%
Science Fair	20%

93 – 100%	A	77 – 79%	C+
90 – 92%	A-	73 – 76%	C
87 – 89%	B+	70 – 72%	C-
83 – 86%	B	60 – 69%	D
80 – 82%	B-	Below 60%	F

Course Schedule

(This schedule represents current plans. As we go through the semester, these plans may change to enhance class learning opportunities. Any such changes will be communicated clearly.)

Date	Topic	Readings
August 30	Introductions	
September 6	Neuroanatomy: From Cells to Systems; Neurodevelopment; Brain Blood Supply & Stroke	Ch. 2, pp. 27-41 Ch. 3 Ch. 15, pp., 522-526
September 13	Communication within the Nervous System; Neurotransmitter Systems; Seizure Disorders; Multiple Sclerosis	Ch. 2, pp. 41-65 Ch. 4, pp. 106-123 Ch. 15, pp. 519-522, 546-547
September 20	TEST 1	
September 27	Methods of Neuroscience Research	Ch. 5
October 4	Sensory Systems; Disorders of Sensory Processing	Ch. 6 Ch. 7
October 11	Motor Systems; Movement Disorders	Ch. 8 Ch. 15, pp. 533-540
October 18	TEST 2	
October 25	Eating, Drinking, Reproducing, and Sleeping	Ch. 9; Ch. 10; Ch. 12
November 1	Emotion; Psychiatric Disorders	Ch. 11; Ch. 16, pp. 570-582; Ch. 17, pp. 584-593, 601-613
November 8 or November 15	Learning & Memory; Memory Disorders	Ch. 13; Ch. 15, pp. 540-545
November 22	Language, Attention, & Executive Functions; Developmental Disorders	Ch. 14; Ch. 15, pp. 528-531; Ch. 17, pp. 593-601
November 29	No Class (Thanksgiving Holiday)	
December 6	SCIENCE FAIR	

University Notices and Policies

University of Texas Honor Code

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Use of E-Mail for Official Correspondence to Students

Email is recognized as an official mode of university correspondence; therefore, you are responsible for reading your email for university and course-related information and announcements. You are responsible to keep the university informed about changes to your e-mail address. You should check your e-mail regularly and frequently—I recommend daily, but at minimum twice a week—to stay current with university-related communications, some of which may be time-critical. You can find UT Austin's policies and instructions for updating your e-mail address at <http://www.utexas.edu/its/policies/emailnotify.php>.

Documented Disability Statement

If you require special accommodations, you must obtain a letter that documents your disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (471-6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). Present the letter to me at the beginning of the semester so we can discuss the accommodations you need. No later than five business days before an exam, you should remind me of any testing accommodations you will need. For more information, visit <http://www.utexas.edu/diversity/ddce/ssd/>.

Religious Holidays

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the absence.

Behavior Concerns Advice Line (BCAL)

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit <http://www.utexas.edu/safety/bcal>.

Emergency Evacuation Policy

Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:

- Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- If you require assistance to evacuate, inform me in writing during the first week of class.
- In the event of an evacuation, follow my instructions or those of class instructors.
- Do not re-enter a building unless you're given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.