Biological Basis of Behavior
EDP 382E 2 (10830)
Fall 2015
Friday 9:00-12:00
SZB 432

Instructor:	Greg Allen, Ph.D.
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TA:	Anne Kostic (annekostic@gmail.com)
	(Office hours: TBA)

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 28	Introductions	
September 4	Neuroanatomy: From Cells to Systems; Neurodevelopment; Brain Blood Supply & Stroke	Ch. 2, pp. 27-41 Ch. 3 Ch. 15, pp., 522-526
September 11	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 18	**TEST 1**	
September 25	Methods of Neuroscience Research	Ch. 5
October 2	Visual and Auditory Systems	Ch. 6 Ch. 7, pp. 207-226
October 9	Somatosensory and Motor Systems; Movement Disorders	Ch. 7, pp. 231-243; Ch. 8 Ch. 15, pp. 533-540
October 16	**TEST 2**	
October 23	Emotion; Psychiatric Disorders	Ch. 11; Ch. 16, pp. 570-582; Ch. 17, pp. 584-593, 601-613
October 30	Learning & Memory; Memory Disorders	Ch. 13; Ch. 15, pp. 540-545
November 6	**NO CLASS (National Academy of Neuropsychology Conference)**	
November 13	Language, Attention, & Executive Functions; Developmental Disorders	Ch. 14; Ch. 15, pp. 528-531; Ch. 17, pp. 593-601
November 20	**TEST 3**	
November 27	**No Class (Thanksgiving Holiday)**	
December 4	**SCIENCE FAIR**	