PSYC 376 – 001: BRAIN AND BEHAVIOR II – Fall 2011

Instructor: Daniel Ehlinger
Email: *dehlinge@gmu.edu*
Office: DK 2027

Class Location: Innovation Hall 206
Class Time: TR 12:00AM-1:15AM
Course Text: Bear, M.F. (2007). *Neuroscience: Exploring the Brain.* Lippincott Williams & Wilkins, Philedelphia, PA

Office Hours: Thursday 1:30PM-2:30AM and appt.
Office Phone: (703) 993-1358

COURSE DESCRIPTION:

This is the 2nd semester of a two part course on the relationship between the brain and behavior. In the first semester of this course, you will have learned about neurons and neuronal function, basic brain anatomy, and the sensory systems (auditory, visual, somatosensory, chemical). In this semester, we will cover an extremely wide range of selected behaviors and behavioral disorders that are critically related to the function of the nervous system, and we will go more in depth into neural structure/function and nervous system anatomy while exploring these behaviors.

We will be starting with a more "basic" aspect of human behavior, movement, and the nervous system structures involved in both normal and abnormal motor systems. We will then be looking deeper at nervous system anatomy through discussion of the autonomic nervous system, neurotransmitter systems, and the influence of hormones on neural and behavioral function. Finally, we will start study specific behaviors and behavioral disorders, including stress/anxiety responses, sexual behavior, sleep, learning and memory, Alzheimer's Disease, emotion, mood disorders, schizophrenia, and drug addiction.

The course will be primarily lecture based, with discussion as time permits. Questions before, during, and after lecture are both welcomed and strongly encouraged. On top of the textbook readings, I will provide selected research articles throughout the semester to show the latest research on some of the selected topics.

COURSE REQUIREMENTS:

Readings will be assigned each week mainly from the course textbook, but may also come from outside sources (research or review journal articles) that will be distributed prior to class. These extra readings will be posted on the course Blackboard page, but in rare occurrences may be distributed via email. For this reason, please MAKE SURE THAT YOUR GMU EMAILS ARE ACTIVE AND NOT "OVER QUOTA", even if you email gets forwarded to a non-GMU email address!

Most students in this class are Neuroscience or Psychology majors, and depending on your program this may or may not be a required course. Please consult the university catalog and your academic advisors for specifics on what constitutes a passing grade in the course.

On a related note, if you do have concerns about your grade during the semester, please do not hesitate to see me for help. It is much easier to help students if they seek help EARLY in the semester rather than at the end! I am more than willing to set up extra study sessions or help make other arrangements to help with challenging course material.

As mentioned previously, this is the 2nd semester of a 2 semester course, and I assume that you have retained the information from Brain and Behavior I. If you have not taken the first semester of this course, I will assume that you have a basic understanding of biological processes related to neuronal structure and function, basic neuroanatomy, and the sensory systems. If not, please review this information in the textbook or see me for suggestions or assistance.

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GRADING:

Class assignments will be based on a point system, with a total of 400pts. There will be a total of three exams (2 interim Exams and 1 Final Exam), which will include multiple choice, fill-in the blank, and short answer questions. Exam questions will contain information from both lecture and text/readings, but will primarily focus on lecture material. It is important to note that lecture material is designed to review book material as well as elaborate on important concepts. *For this reason, there may be information during lectures not found in the course text that students will be responsible for on exams (i.e. come to class!).* Each interim exam is worth 100pts.

There will be a **partially-cumulative Final Exam on Dec. 15th from 10:30am-1:15pm**. This exam will be in the same format as the other exams. This exam will focus more heavily on new material, but will also include important concepts from previous lectures. The cumulative exam is worth 140pts.

All exams are mandatory and I expect them to be taken on the date specified in the syllabus. With that said, if a student knows well in advance that they will be absent for an exam, please see me in person and I will try my best to arrange an alternate time to take the exam. If an interim exam is missed unexpectedly (i.e. without letting the instructor know in person, well in advance), it will be up to my discretion and university policies to give a make-up exam.

There will be two 2-3 page article summary papers **Due October 20th** and **December 1st** at the beginning of class worth 30pts each. For these assignments, you will be asked to pick any topic of interest that relates both biology and behavior, and select a single recent **RESEARCH (NOT REVIEW) journal article** to see current research on the topic. More details on how to write these assignments, as well as recommendations on how and where to find appropriate journals/articles, will be distributed at a later date. While I will not require you to get your sources approved, I highly recommend getting your articles approved from me before you start your writing!

Exam I ……..……..100pts
Exam II……100pts
Exam III…….. 140pts
Article Summary I…….. .30 pts
Article Summary II……..30 pts

TOTAL = 400pts.

A+ = 388 – 400 pts
A = 363 – 387 pts
A- = 358 – 362 pts
B+ = 348 – 357 pts
B = 323 – 347 pts
B- = 318 – 322 pts
C+ = 308 – 317 pts
C = 283 – 307 pts
C- = 278 – 282 pts
D = 240 – 277 pts
F = < 240 pts.

TECHNOLOGY :

Class will be held in an Electronic Classroom and lectures are in PowerPoint format. Additional course information, reminders, alterations to the schedule, and notices may be distributed via email to your GMU email address.

The course will also use Blackboard to distribute course materials (gmu.blackboard.com)

SPECIAL NEEDS:

If you are a student with disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 709-993-2474. All academic accommodations must be arranged through that office.

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Honor Code:
Students are reminded of the University honor code and are expected to adhere to the principles thereof.

ADD Deadline: September 6th **DROP Deadline:** September 30th

TENTATIVE SCHEDULE:

Date	Subject	Readings
Aug. 30, Sep. 1	Introduction to course Motor System – Spinal Cord	Chapter 13
Sep. 6, 8	Motor System – Brain	Chapter 14
Sep. 13, 15	Disorders of Movement (PD/Huntingtons)	Selected Readings
Sep. 20, 22	Autonomic Nervous System Hypothalamic Control Diffuse Modulatory NT's	Chapter 15
Sep. 27, 29	**September 27 = Exam I** Stress Response/PTSD	Chapter 22 (pgs 663-672) Selected Readings
Oct. 4, 6	Brain Rhythms/EEG Sleep	Chapter 19 Selected Readings
Oct. 11, 13	October 11 = No Class - Monday class meets Learning & Memory	Chapter 24
Oct. 18, 20	LTP/Plasticity **Article Summary I = Due by October 20**	Chapter 25
Oct. 25, 27	Alzheimer's Disease	Selected Readings Chapter 2 – Box 2.3
Nov. 1, 3	**November 1 = Exam II** Emotion	Selected Readings Chapter 18
Nov. 8, 10	Emotion (cont.) Depression	Selected Readings Chapter 22 (pg 673-679)
Nov. 15, 17	Depression (cont.) Bipolar Disorder	Selected Readings Chapter 22 (pg 679- 684)
Nov. 22, 24	Schizophrenia November 24 = No class Thanksgiving	Selected Readings
Nov. 29, Dec. 1	Schizophrenia (cont.) Drug Abuse & Addiction **Article Summary II = Due by Dec.1**	Chapter 15 (pgs 505-507 Chapter 16 (Box 16.5) Selected Readings
Dec. 6, 8	Drug Abuse & Addiction (cont.) Review for final	
Dec. 15	**FINAL EXAM = EXAM III** **10:30AM – 1:15 PM**	