Instructor: Dr. Jennifer Brielmaier  
E-mail address: jbrielma@gmu.edu  
Office phone #: 703-993-1469  
Office location: DK 2063

Class time: TR 12:00 - 1:15 pm  
Class location: Innovation 206  
Emergency phone #: 703-993-1384 (Dept.)

Office hours: Tues. 10:30 - 11:30 am

Course Description:

This is the second semester of a two-part course on the relationship between the brain and behavior. In the first semester (PSYC 375), you will have learned about neurons and neuronal function, basic brain anatomy, and the sensory systems (auditory, visual, somatosensory and chemical). In this semester, we will cover a wide range of selected behaviors and processes that are critically related to the function of the nervous system. A special emphasis will be placed on clinical applications of course material and on neuroscience research findings which have shed light on the intricacies of the brain-behavior relationship.

This course will consist of a series of lectures and guided activities, with assignments, quizzes and exams to be completed in class. There will also be one assignment to be completed outside of class. All assignments are described in detail below.


Required Readings: Available on Blackboard

Course Objectives:

As a result of completing work in this course, students will:

- Understand the structure and function of brain systems controlling complex behaviors
- Appreciate the neurochemical and hormonal influences on behavior
- Be able to identify the neurobiological bases of various psychiatric and neurological disorders
- Learn to interpret neuroscience research findings and evaluate their validity and relationship to course material
- Apply knowledge about the consequences of damage to brain regions controlling complex behaviors through design and presentation of hypothetical case studies

Assignments:

- **Readings:** Assigned readings will mainly consist of chapters from the textbook, but may also come from outside sources (e.g. research or review journal articles). These outside readings will be distributed via Blackboard and/or GMU email. Our time together in class will be much more productive if you come to class prepared. Part of being prepared is completing all readings **BEFORE** you come to class. You don’t need to understand every word, but you need to have a clear idea of the overall concepts addressed and be prepared with possible questions or discussion points.

- **Quizzes:** There will be a total of three **unannounced** quizzes at the beginning of class covering material from the prior week’s lesson. These quizzes count for **extra credit** (up
to 5 points per quiz) that will be added to the total of your final exam, and will be in the same format as the exams. Because they count as extra credit, there will be no make-up quizzes allowed.

- **In-Class Assignments:** I will provide time each week for you to complete an assignment during class. Assignments will relate to that day’s material and will **address topics that will be on the exams**. Therefore, it is highly encouraged that you attend each class and complete the assignments. Depending on the week, assignments will be completed individually, in pairs, or in small groups. Bringing your textbook, notes and/or outside readings to class will help you complete the assignments. You are allowed to drop two of these assignments; thus, there will be no make-ups. These assignments will account for 15% of your final grade.

- **Exams:** There will be a total of three exams consisting of multiple choice, short answer and essay questions. Each of these exams will account for 25% of your grade.

- **Case Study Presentation (group project):** One of the most interesting ways to learn about the relationship between brain and behavior is to see what happens when a particular part of the brain is damaged. The focus of the group project, therefore, is to learn more about a specific type of brain damage. Each group will be assigned a particular form of brain damage (i.e. damage to the orbitofrontal cortex). The groups will then create a brief hypothetical case study which will be written up and be presented to the class. Generally, the case study will: 1) briefly address the hypothetical patient’s background and cause of the lesion/damage; 2) address the changes that the patient and/or friends and family have noticed in behaviors and abilities; and 3) discuss any additional changes that could be expected over time with aging or development. The third (final) exam will contain questions relating to information presented in the case studies. Detailed information about this assignment, including a grading rubric, will be provided later in the semester. This assignment will account for 10% of your final grade.

**Attendance and Makeup Policies:**

- **Attendance:** Attendance *per se* is not part of your grade for this course. However, arriving late, leaving early and/or failing to attend class will adversely affect your in-class assignment grade and will interfere with your ability to learn the course material. With that being said, I understand that emergencies do come up. If you must miss a class, please go to a classmate first for notes. I will be glad to meet with you about any questions after you do this. I also welcome questions via email anytime. If you must arrive to class early or leave late, please seat yourself as close to the door as possible to avoid any sort of disruption. **NOTE: You are responsible for all announcements and any syllabus modifications made in class each week whether you are present or not.**

- **Assignment Makeup Policy:** Because you are allowed to drop two of the in-class assignments without penalty, makeups are not allowed unless you have obtained my consent *in advance* or have written medical documentation for your absence from class. Because they count for extra credit, makeup quizzes are not allowed under any circumstances, including arriving late to class the day a quiz is given. The case study assignment involves presentation to the class and thus cannot be postponed. Should a
situation arise where an individual student is unable to contribute to this group assignment (e.g. for medical reasons), an alternative assessment of my choosing will be given to that student.

- **Exam Makeup Policy:** Exams cannot be postponed without penalty unless you have obtained my consent in advance to postpone an exam, or unless you have written medical documentation for absence from an exam. Permission to postpone an exam will only be given for very acute and important reasons, at my discretion. Exams postponed without written medical documentation or my advance consent can be made up with a grade penalty of 10% per day. If an exam is not taken within 10 days of the original date, a grade of 0 will be given for that exam.

**Grading Breakdown:**

In-Class Assignments (15%) + Exams (3 x 25% = 75%) + Case Study (10%) = 100%

Grades will be assigned based on the following scale:

- A+ 97% or above
- B+ 87-89%
- C+ 77-79%
- D 60-69%
- A 93-96%
- B 83-86%
- C 73-76%
- F 59% & below
- A- 90-92%
- B- 80-82%
- C- 70-72%

Incomplete (IN) grades will be assigned only in cases of compelling and documented need, in accordance with policies set forth in the University Catalog.

**Official communications via GMU email:**

Mason uses electronic mail to provide official information to students. Examples include communications from course instructors, notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback. Students are responsible for the content of university communication sent to their Mason email account, and are required to activate that account and check it regularly.

**Technology statement:**

Required knowledge of technology for this course includes ability to retrieve additional materials sent via email to your GMU address and/or posted on Blackboard. Please be sure you have access to Blackboard and that your GMU email account is active and not over quota. I will post relevant information and documents via the latest version of Microsoft Office, so make sure to have the latest version of office or download the converter in order to read all important documents.

**Special Needs:**

Every effort possible will be made to accommodate students with a disability or other special needs. If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 703-993-2474. All academic accommodations must be arranged through that office.

**The GMU Honor Code will be strictly enforced.** Cheating and plagiarism will not be tolerated and will be reported to the University Honor Board and/or penalized. Plagiarism is defined as using another’s work (e.g. words or ideas) without giving proper credit. Sources of information used in the case study presentation must be properly cited so as to avoid plagiarism. The
Brain and Behavior II  
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Instructor for this course reserves the right to enter a failing grade to any student found guilty of an honor code violation.

**Add/drop deadline:**  
Last day to add – September 4th  
Last day to drop – September 26th

There is also an elective withdrawal option for undergraduate students that will be from October 1-26. I strongly suggest that you speak with your academic advisor before choosing this option.

*Tentative Schedule*

**NOTE:** You are responsible for all announcements and any syllabus modifications made in class each week whether you are present or not.

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<tr>
<th>Dates</th>
<th>Topic</th>
<th>Readings/Assignments</th>
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| Aug. 28 & 30     | Introduction  
                  Motor Systems: Spinal Cord                        | Chapter 13                                     |
| Sept. 4 & 6      | Motor Systems: Brain                                                 | Chapter 14                                     |
| Sept. 11 & 13    | Chemical Control of the Brain                                        | Chapter 15                                     |
| Sept. 18 & 20    | Motivated Behaviors                                                 | Chapter 16                                     |
| Sept. 25 & 27    | **September 25: Exam 1**  
                  The Stress Response/Anxiety Disorders                      | Chapter 22 pp. 663-672  
                  Selected Readings                                        |
| Oct. 2 & 4       | Reproductive Behaviors                                              | Chapter 17                                     |
| Oct. 9 & 11      | October 9: NO CLASS (Columbus Day 10/8)  
                  Brain Rhythms and Sleep                                   | Chapter 19                                     |
| Oct. 16 & 18     | October 16: NO CLASS (SfN Meeting)  
                  Brain Rhythms and Sleep (cont.)                           | Activity TBA  
                  Chapter 19                                                  |
| Oct. 25 & 27     | Memory Systems                                                       | Chapter 24  
                  Selected Readings                                          |
| Oct. 30 & Nov. 1 | Molecular Mechanisms of Learning/Memory                             | Chapter 25  
                  Selected Readings                                          |
| Nov. 6 & 8       | **November 6: Exam 2**  
                  Language                                                  | Chapter 20                                     |
| Nov. 13 & 15     | Emotion                                                              | Chapter 18                                     |
| Nov. 20 & 22     | Affective Disorders  
                  November 22: NO CLASS (Thanksgiving)                      | Chapter 22 pp. 673-678  
                  Selected Readings                                          |
| Nov. 27 & 29     | Schizophrenia and Autism  
                  Drug Abuse and Addiction                                    | Chapter 22 pp. 679-684  
                  Chapter 16 Boxes 16.3-16.5  
                  Selected Readings                                          |
| Dec. 4 & 6       | Case Study Presentations                                             | Case Study Writeup Due                           |
| Dec. 13          | **Exam 3 10:30 am – 1:15 pm**                                       |                                               |