**Instructor:** Dr. Jennifer Brielmaier **E-mail address:** jbrielma@gmu.edu

**Class time:** MW 1:30-2:45 pm **Office phone #:** 703-993-1469

**Class location:** Robinson B203 **Office location:** DK 2044

**Office hours:** Wed. 12-1 pm

**Office hours signup:** <https://brielmaiersontag.youcanbook.me/>

**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 that 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. Two assignments will be completed outside of class. All assignments are described in detail below.

**Required Text:** Bear, M.F. (2015). Neuroscience: Exploring the Brain (4th edition). Lippincott,

Williams and Wilkins. ISBN: 9780781778176

**Required Readings/Videos:** 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, discuss and critically evaluate neuroscience research findings related 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 your final exam raw score, and will be in the same format as the exams. **Because they count as extra credit, there will be no make-up quizzes allowed under any circumstances.**
* **In-Class Assignments:** I will provide time during most class meetings for you to complete a written 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 will submit the assignments **in class** online via Blackboard (either typed on your laptop/tablet or uploaded as a photo). Assignments will be graded based on completion as opposed to accuracy. However, you must address all questions in order to receive credit. You are allowed to drop one of these assignments; thus, there will be no make-ups. These assignments will account for 10% of your final grade.
* **Exams:** There will be a total of four exams (three non-cumulative interim exams

and one semi-cumulative final exam) consisting of multiple choice, fill in the

blank, short answer and/or essay questions. The lowest of the three interim exam

grades will be dropped. The two interim exams you keep will each account for 20% of

your final grade. **Because the lowest grade will be dropped, no makeups will be**

**allowed for the interim exams.** The final exam is mandatory for all students and

will account for 30% of your final grade.

* **Online Discussions:** You will be required to participate in a total of 3 online discussions throughout the semester. Discussions will be based on journal articles or video lectures describing research findings that build on course material, and will take place on Blackboard. In order to earn full credit for each discussion you must 1) answer the discussion question(s) posed by me and 2) post at least one comment in reply to another student’s answer. More information will be provided before the first discussion. The discussions will account for 5% of your final 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 and create a brief hypothetical case study which will be written up and presented to the class. Written and oral presentations will be graded according to a rubric. The final exam will contain questions relating to information presented in the case studies. Detailed information about this assignment will be provided later in the semester. This assignment will account for 15% 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 disrupting others. ***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 one of the in-class assignments without penalty, makeups are not allowed. Students who provide written medical or similar documentation explaining an extended absence from class (i.e., missing two or more consecutive classes) will be allowed to make up assignments at my discretion. 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. Discussion board posts made after the deadline will receive a grade of zero. The case study assignment includes a 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:** Because your lowest exam grade will be dropped, no exam makeups are allowed under any circumstances. Permission to postpone an exam will only be given for very acute and important reasons, at my discretion, and may incur a grade penalty of 10% per day.

**Class Cancellation Policy:**

In the event that I need to cancel class, you will be notified about the cancellation and any makeup plans via email and/or Blackboard as soon as possible. Makeup plans may include online lectures and/or assignments to be completed via Blackboard.

**Grading Breakdown:**

In-Class Assignments (10%) + Interim Exams (2 x 20% = 40%) + Final Exam (30%) + Online Discussions (5%) + Case Study (15%) = 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. *Policy on technology in the classroom:* Laptops and tablets are permitted. The use of cell phones is discouraged. Anyone found using their device for something other than course-related work will not earn credit for the in-class assignment given that day (or for the following class if no assignment is given that day).

**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.

**Student Services:**

* **Counseling and Psychological Services:** The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (See [http://caps.gmu.edu](http://caps.gmu.edu/)).
* **Student Support and Advocacy Center:** The George Mason University Student Support and Advocacy Center offers one-on-one support to students, interactive programming, and off-campus resources. Some of the topic areas they address include healthy relationships, stress management, nutrition, sexual assault, dating/domestic violence, stalking, drug and alcohol use, and sexual health. See <http://ssac.gmu.edu> for more information.

**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 instructor for this course reserves the right to enter a failing grade to any student found guilty of an honor code violation. Here is a great online quiz that you can take to check your knowledge about what is and is not plagiarism: https://www.indiana.edu/~tedfrick/plagiarism/.

**Add/Drop Deadlines:** 1/30 last day to add/drop with no tuition penalty; 2/13 last day to drop with a 33% tuition penalty; 2/24 last day to drop with 67% tuition penalty

# *Tentative* Schedule

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| **Dates** | **Topic** | **Readings** | **Deadlines**  **(BY 11:59 pm on date below)** |
| Jan 23 & 25 | Introduction  Spinal Control of Movement | Chapter 13 |  |
| Jan 3 & Feb 1 | Brain Control of Movement | Chapter 14 |  |
| Feb 6 & 8 | Chemical Control of the Brain and Behavior | Chapter 15 |  |
| Feb 13& 15 | **Feb 13: EXAM 1**  Feb 15: Motivation | Chapter 16 pp.552-566 |  |
| Feb 20 & 22 | Feb 20: Motivation (cont.)  Feb 22: Sex and the Brain | Chapter 16 pp. 566-578  Chapter 17 pp. 579-594 | **2/20: Disc 1** |
| Feb 27 & Mar 1 | Feb 27: Sex and the Brain (cont.)  Mar 1: Brain Rhythms and Sleep | Chapter 17 pp. 595-612  Chapter 19 pp. 645-664 |  |
| Mar 6 & 8 | Mar 6: Brain Rhythms and Sleep (cont.)  **Mar 8: EXAM 2** | Chapter 19 pp. 664-681 |  |
| Mar 13 & 15 | ***NO CLASS – SPRING BREAK*** |  |  |
| Mar 20 & 22 | Memory Systems | Chapter 24 |  |
| Mar 27 & 29 | Molecular Mechanisms of Learning/Memory | Chapter 25 | **3/27: Disc 2** |
| Apr 3 & 5 | Language | Chapter 20 |  |
| Apr 10 & 12 | **Apr 10: EXAM 3**  Apr 12: Brain Mechanisms of Emotion | Chapter 18 pp. 615-630 |  |
| Apr 17 & 19 | Apr 17: Neurobiology of Emotion (cont.)  Apr 19: Mental Illness: Stress/Anxiety | Chapter 18 pp. 630-644  Chapter 22 pp. 751-771 |  |
| Apr 24 & 26 | Apr 24: Mental Illness: Schizophrenia  Apr 26: Autism | Chapter 22 pp. 763-779 | **4/26: Disc 3** |
| May 1 & 3 | Case Study Presentations |  | **5/3: Case Study Writeup** |
| May 10 | **Final Exam 1:30 – 4:15 pm** |  |  |