

|  |  |
| --- | --- |
| **Syllabus** | |
| Course Information | PSYC 375: Brain and Sensory Processes  Location: Distance Education/Blackboard |
| Instructor | Please refer to your online course: <https://mymasonportal.gmu.edu/>  Office Hours by appointment. |
| Course Description | First half of comprehensive survey of neuroscience, including basic neuroanatomy, neural and synaptic transmission, neural mechanisms underlying normal and abnormal behavior, and biological mechanisms of drug action. Notes: Students may earn credit for 372 and either 375 or 376, but they may not earn credit for all three. Offered by Psychology. Limited to three attempts.  Recommended Prerequisite: PSYC 100 with a grade of C- or better, and BIOL 103, BIOL 106 & 107, or BIOL 213; or permission of instructor. |
| Course Objectives | Upon completion of the course, students will be able to:   1. Identify the structural and biochemical features of neurons and explain their functional significance 2. Identify the structural and biochemical elements of a synapse and explain how they facilitate synaptic transmission 3. Illustrate how electrical properties of the neuronal membrane facilitate neuronal impulses 4. Identify the pathways by which sensory information is transmitted to the brain 5. Describe how environmental stimuli are transduced into neuronal activity 6. Describe fundamental mechanisms by which sensory information is encoded 7. Explain how attention can modulate sensation and consciousness experience 8. Explain how an understanding of sensory processes can enable formulation of a treatment for a clinical condition |
| Course  Methodology | The class format will combine reading, lectures, presentations, and other learning tools. The class will be interactive and require every student to be engaged in the classroom discussion and assignments. In addition to the lectures, screencasts and timely completion of assignments, every student will be expected to be an active participant and a dedicated individual applying what you learn to every element of the course work. |
| Required textbook(s) and/or materials | Required Text: Bear, M., Connors, B., & Paradiso, M. A. (2016). 4th edition. Navigate 2 Premier Access for Neuroscience: Exploring the brain. (ISBN**:** 9781284211276) <https://www.jblearning.com/catalog/productdetails/9781284211276> |
| Computer Requirements | **Hardware:** You will need access to a Windows or Macintosh computer with at least 2 GB of RAM and access to a fast and reliable broadband internet connection (e.g., cable, DSL). A larger screen is recommended for better visibility of course material. You will need speakers or headphones to hear recorded content and a headset with a microphone is recommended for the best experience. For the amount of Hard Disk Space required taking a distance education course, consider and allow for:   1. the storage amount needed to install any additional software and 2. space to store work that you will do for the course.   If you consider the purchase of a new computer, please go to [Patriot Tech](https://masononline.gmu.edu/what-technologies-do-i-need/) to see recommendations.  **Software:** Many courses use Blackboard as the learning management system. You will need a browser and operating system that are listed compatible or certified with the Blackboard version available on the [myMason Portal](http://mymason.gmu.edu). See [supported browsers and operating systems](https://help.blackboard.com/en-us/Learn/9.1_SP_10_and_SP_11/Student/002_Browser_Support_SP_11). Log in to [myMason](http://mymasonportal.gmu.edu/) to access your registered courses. Some courses may use other learning management systems. Check the syllabus or contact the instructor for details. Online courses typically use [Acrobat Reader](http://get.adobe.com/reader/), [Flash](http://get.adobe.com/flashplayer/), [Java](http://www.java.com/en/download/), and [Windows Media Player](http://windows.microsoft.com/en-US/windows/products/windows-media-player), [QuickTime](http://support.apple.com/downloads/#quicktime) and/or [Real Media Player](http://www.real.com/realplayer/search). Your computer should be capable of running current versions of those applications. Also, make sure your computer is protected from viruses by downloading the latest version of Symantec Endpoint Protection/Anti-Virus software for free [here](http://antivirus.gmu.edu/).  Students owning Macs or Linux should be aware that some courses may use software that only runs on Windows. You can set up a Mac computer with Boot Camp or virtualization software so Windows will also run on it. Watch [this video](https://youtu.be/Hmm9Q-T0oTo) about using Windows on a Mac. Computers running Linux can also be configured with virtualization software or configured to dual boot with Windows.  Note: If you are using an employer-provided computer or corporate office for class attendance, please verify with your systems administrators that you will be able to install the necessary applications and that system or corporate firewalls do not block access to any sites or media types.  **Course-specific Hardware/Software**  Check the syllabus for your course or contact the instructor prior to the start of the course to find out about specific technical requirements for your class. Hardware or software required for your course or program may be available for purchase at [Patriot Computers](http://compstore.gmu.edu/) (the University’s computer store that offers educational discounts and special deals). |
| Course Website | Blackboard 9.1 will be used for this course. You can access the site at http://mymasonportal.gmu.edu. Login and click on the “Courses” tab. You will see PSYC 375. NOTE: Username and passwords are the same as your Mason email account. You must have consistent access to an internet connection in order to complete the assignments in this course through Blackboard (http://mymason.gmu.edu). |
| Participation | Learning can only happen when you are playing an active role. It is important to place more emphasis on developing your insights and skills, rather than transmitting information. Knowledge is more important than facts and definitions. It is a way of looking at the world, an ability to interpret and organize future information. An active learning approach will more likely result in long-term retention and better understanding because you make the content of what you are learning concrete and real in your mind.  Although an active role can look differently for various individuals, it is expected in this class that you will work to explore issues and ideas under the guidance of the professor and your peers. You can do this by reflecting on the content and activities of this course, asking questions, striving for  answers, interpreting observations, and discussing issues with your peers. |
| Rules and Expectations | In correspondence/communication students will be expected to:   1. Be professional and respectful in correspondence 2. Make reasonable requests of the instructor. We will be happy to clarify course material and answer legitimate questions; however, please exhaust other information sources (e.g., syllabus, Blackboard) for answering your question before contacting me and remember, “Poor planning on your part does not constitute an emergency on my part”   In regard to honesty in work students will be expected to:   1. Review the University integrity and honesty policies in the student handbook for guidelines regarding plagiarism and cheating (summarized below). I will gladly clarify my stance on any questionable or “grey area” issues you may have. 2. Refrain from dishonest work as it will receive a minimum penalty of zero on the assignment and a maximum penalty of a zero for the course with a report to the Honor committee. The GMU Honor Code requires that faculty submit any suspected Honor Code violations to the Honor Committee. Therefore, any suspected offense will be submitted for adjudication. |
| Mason Honor Code | **The complete Honor Code is as follows:**  *To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code:* **Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.**  *(From the Catalog – catalog.gmu.edu)* |
| Cheating Policy | Any form of cheating on an activity, project, or exam will result in zero points earned.  “Cheating” includes, but is not limited to, the following: reviewing others’ exam papers, having ANY resources utilized when not allowed, collaborating with another student during an individual assignment.  If you have questions about when the contributions of others to your work must be acknowledged and appropriate ways to cite those contributions, please talk with the professor or utilize the GMU writing center. |
| Plagiarism and the Internet | Copyright rules also apply to users of the Internet who cite from Internet sources. Information and graphics accessed electronically must also be cited, giving credit to the sources.  This material includes but is not limited to e-mail (don't cite or forward someone else's e-mail without permission), newsgroup material, information from Web sites, including graphics. Even if you give credit, you must get permission from the original source to put any graphic that you did not create on your web page. Shareware graphics are not free. Freeware clipart is available for you to freely use. If the material does not say "free," assume it is not.  Putting someone else's Internet material on your web page is stealing intellectual property. Making links to a site is, at this time, okay, but getting permission is strongly advised, since many Web sites have their own requirements for linking to their material. [Review the Honor Code here.](http://oai.gmu.edu/the-mason-honor-code2/plagiarism/understanding-plagiarism/) |
| Individuals with Disabilities | Students with documented disabilities should contact the Office of Disability Services (703) 993-2474) to learn more about accommodations that may be available to them.  *(From the 2019-2020 Catalog – catalog.gmu.edu)* |
| Academic Integrity and Inclusivity | This course embodies the perspective that we all have differing perspectives and ideas and we each deserve the opportunity to share our thoughts. Therefore, we will conduct our discussions with respect for those differences. That means, we each have the freedom to express our ideas, but we should also do so keeping in mind that our colleagues deserve to hear differing thoughts in a respectful manner, i.e. we may disagree without being disagreeable. http://oai.gmu.edu/ |
| Student Privacy Policy | George Mason University strives to fully comply with FERPA by protecting the privacy of student records and judiciously evaluating requests for release of information from those records.  Please see George Mason University’s student privacy policy  https://registrar.gmu.edu/students/privacy/ |
| E-Mail Policy | Web: masonlive.gmu.edu  Mason uses electronic mail to provide official information to students. Examples include 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 e-mail account and are required to activate that account and check it regularly.  Students are also expected to maintain an active and accurate mailing address in order to receive communications sent through the United States Postal Service.  *(From the 2017-18 Catalog – catalog.gmu.edu)* |
| Course Grading & Evaluation | Grades will be assigned as follows:  A: 93.00-100%  A-: 89.50-92.99%  B+:87.00-89.49%  B:83.00-86.99%  B-:80.00-82.99%  C+:77.00-79.99%  C:73.00-76.99%  C-:70.00-72.99%  D:60.00-69.99%  F:0-59.99% |
| Participation and *The Itch* Discussion – **5%** | This category consists of your overall participation in synchronous sessions and the Lesson 15 discussion board in response to an assigned reading. |
| Quizzes– **10%** | There will be three short quizzes based on the weekly lectures and readings to prepare you for the Exams. Your lowest grade will be dropped. |
| Exams – **85%** | There will be four Exams in this course. Your lowest grade will be dropped. |
| **Need Help?**  Utilize the “Course Q&A” discussion forum or email your instructor directly. | |

Expect to work 15-20 hours per week on assignments for this course.

Unless otherwise stated, all assignments are due by the end of the week in which they are assigned. For the purposes of this course, a week is defined as **beginning at 12:01 am each Monday EST**, and **ending at 11:59 pm on the following Sunday EST.**

To help you manage your schedule and time to complete the assignments in this course, please follow the recommended timeline below. If you have a question or concern or encounter a problem about an assignment, please contact me immediately so we can discuss and work out a resolution.

|  |  |  |
| --- | --- | --- |
| **Weeks** | **Lessons** | **Assignments** |
| **Week 1** | **Lesson 1:**  Introduction & Historical Perspective on Neuroscience | * Read Chapter 1 * Watch the Lecture 1 |
| **Week 2** | **Lesson 2:**  Neurons & Glia | * Read Chapter 2 * Watch the Lecture 2 |
| **Week 3** | **Lesson 3:**  Resting Membrane Potential | * Read Chapter 3 * Watch the Lecture 3 |
| **Week 4** | **Lesson 4:**  Action Potential | * Read Chapter 4 * Watch Lecture 4 |
| **Week 5** | **Lesson 5:**  Synapses: Structure & Function | * Read Chapter 5 * Watch Lecture 5 * Complete Quiz 1 |
| **Week 6** | **Lesson 6:**  Synapses and Neurotransmitter systems | * Read Chapter 6 * Watch Lecture 6 * Complete Exam 1 |
| **Week 7** | **Lesson 7:**  Neuroanatomy | * Read Chapter 7 * Watch Lecture 7 |
| **Week 8** | **Lesson 8:**  The Chemical Senses | * Read Chapter 8 * Watch Lecture 8 |
| **Week 9** | **Lesson 9:**  The Eye | * Read Chapter 9 * Watch Lecture 9 * Complete the Quiz 2 |
| **Week 10** | **Lesson 10:**  Retinal Circuits | * Read Chapter 9 * Watch Lecture 10 * Complete the Exam 2 |
| **Week 11** | **Lesson 11:**  Central Visual System | * Read Chapter 10 * Watch Lecture 11 |
| **Week 12** | **Lesson 12:**  Attention & Consciousness | * Read Chapter 21 * Watch Lecture 12 |
| **Week 13** | **Lesson 13:** Auditory System | * Read Chapter 11 * Watch Lecture 13 |
| **Week 14** | **Lesson 14:**  Somatic Sensory System | * Read Chapter 12 * Watch Lecture 14 * Complete the Quiz 3 |
| **Week 15** | **Lesson 15:**  Case Study: The Itch | * Read *The Itch* and complete the Discussion Board * Complete the Exam 3 * Complete the Final Exam during the designated period |