PSY 330: Foundations of Behavioral Neuroscience

Course Syllabus, Section 06, Fall 2025

Course Information

Course Title: Foundations of Behavioral Neuroscience

Course Code: PSY 330 06

Credits: 3

Prerequisites: PSY 101

Course Format: Online (asynchronous)

Instructor Information

Instructor: Dr. Paolo Campus

Office: 2115 Au Sable Hall

Office Hours: Tuesdays and Thursdays, 1:00 PM; 03:00 PM (or by appointment)

Email: campusp@gvsu.edu

Phone: (616) 331-2421

Zoom: Personal Meeting ID (use this link for personal meetings)

Best way to contact me: Email is preferred. I will respond within 24 hours to messages received Mon–Thurs, 9:00 AM–5:00 PM. Emails sent over the weekend may not receive a reply until Monday. For urgent matters, include “URGENT” in the subject line.

Course Description

This course introduces behavioral neuroscience, the interdisciplinary field that examines the neurobiological and psychophysiological foundations of behavior. We will investigate how the brain and nervous system shape thoughts, emotions, and actions, bridging the gap between biology and psychology. Topics will span from the microscopic level (e.g., neurons, neurotransmitters, and synaptic communication) to large-scale brain systems underlying perception, cognition, emotion, motivation, and mental health.

Our goal is not only to build foundational knowledge but also to foster critical reflection on what neuroscience can teach us about the human experience. Whether or not you have prior exposure to neuroscience, you are encouraged to approach this course with curiosity, an open mind, and a willingness to question assumptions about what it means to be human.

To organize our exploration, the course is divided into five modules:

- **MODULE1: The Nervous System**. We begin with the biological basis of behavior. You will learn how neurons generate and transmit signals, how neurotransmitters and drugs influence brain function, and how communication between brain regions supports complex behavior. We will also distinguish between the central and peripheral nervous systems, identify major brain regions, and discuss their primary roles in regulating thought and action.
- **MODULE 2: Consciousness, the Senses, and Motor Control**. In this module, we turn to the interface between the brain and the external world. We will discuss how sensory systems (from vision and hearing to touch, taste, smell, balance, and beyond) transform environmental stimuli into neural signals that shape perception. We will also explore the neural basis of motor control, examining how the brain generates appropriate responses to both external and internal demands. A major theme of this module is consciousness, including theories of subjective awareness,

neural correlates of consciousness, and the special case of sleep. We will study sleep stages, circadian rhythms, and sleep disorders, considering both their biological mechanisms and clinical treatments.

- **MODULE 3: Cognition**. Here, we will investigate the neurobiological foundations of core cognitive processes, including learning, memory, language, and decision-making. We will explore how brain circuits support these abilities, how they are disrupted in certain conditions, and what neuroscience reveals about the flexibility and limitations of human thought.
- **MODULE 4: Emotion and Motivation**. This module examines the brain mechanisms that generate and regulate emotions (e.g., fear, anger, joy) and drive motivated behaviors (e.g., hunger, sexual behavior, and reward-seeking). We will explore how emotion and motivation interact with cognition, shaping decision-making, social interaction, and psychological well-being.
- **MODULE 5: Disorders of the Brain**. In the final module, we turn to the neuroscience of dysfunction. We will survey major neurological disorders (e.g., brain tumors, epilepsy, developmental and neurodegenerative conditions) and mental disorders (e.g., depression, anxiety, schizophrenia). Alongside biological mechanisms, we will examine how disorders are diagnosed, classified, and treated, with a focus on both pharmacological interventions (e.g., medications) and non-pharmacological approaches (e.g., therapy, lifestyle, brain stimulation)..

Learning Objectives

By the end of this course, you will:

- Describe the basic anatomy and physiology of the nervous system.
- Explain how neurons communicate and how neurotransmitters and psychotropic drugs affect brain function.
- Identify major research methods in behavioral neuroscience and evaluate their strengths and limitations.

- Understand brain mechanisms behind sensation, perception, movement, and other complex behaviors.
- Explain the neurobiological basis of learning, memory, emotion, and motivation.
- Recognize symptoms of major brain disorders and evaluate available treatments.

Materials

- Internet Access: All course materials/contents, including, readings, lecture slides, articles, study guides, announcements, exams, and grades, will be posted on the course Blackboard page, available at https://lms.gvsu.edu/.
- Computer/Tablet/Smartphone: Blackboard runs on Windows, Linux, iOS, Android, or any other electronical device with an up-to-date web browser.
- PDF Reader: Some material in this course may be presented in PDFs. To view these materials, you will need a PDF reader.
- Word Processor: You will need a word processing software (e.g., Microsoft Office, Google Docs, etc.,) to complete some course assignments. Office 365 is available for free for personal computers/devices for qualifying GVSU students.

Evaluation and Grading

Your grade in this course will be based on two main components: **Exams** and **Discussion Board Assignments**. Together, these assessments are designed to evaluate both your knowledge of foundational concepts in behavioral neuroscience and your ability to critically engage with those concepts.

- **Exams (300 points, or 60% of the final grade)**. There will be five exams: four midterms and one non-cumulative final. Each exam is worth 60 points, for a total of

300 points. Exams will consist of 60 multiple-choice and/or fill-in-the-blank questions.

- **Format & Access**: Exams will be administered through Blackboard and will be available for at least seven days prior to the due date. You may take each exam at any time within that window.
- **Timing**: Once you begin, the exam must be completed in a single sitting and will close automatically after 70 minutes. You cannot pause or reopen the exam once it has started.
- **Resources**: You may use course materials, including lecture slides, study guides, class notes, and the Blackboard course page while taking the exam. However, these resources should be used sparingly. Because of the time limit, you will not be able to look up every answer.
- **Preparation Strategy**: The most effective way to succeed is to study thoroughly in advance so that you are familiar with the material. The open-resource format is designed to support your learning, not to replace preparation.

Discussion Board Assignments (200 points, or 40% of the final grade). Throughout the semester, you will complete 10 discussion board assignments, each worth 20 points, for a total of 200 points. These assignments give you the opportunity to apply course concepts, connect them to broader ideas, and engage in thoughtful dialogue with your peers.

- **Structure**: For each module, I will post two prompts that invite you to reflect on and analyze topics related to the material. Your response should be approximately 200 words.
- **Content Expectations**: While personal perspectives are welcome, your posts must go beyond opinion. Strong responses will draw on concepts and theories from the course (slides, study guides, or lectures), incorporate empirical evidence when appropriate, cite any sources that are referenced.
- **Tone & Professionalism**: The discussion board is an academic space, not an informal chat room. Contributions should be thoughtful, respectful, and

professional. Always engage with your peers' perspectives in a constructive way, even when you disagree.

Further instructions, including due dates, grading rubrics, and specific guidelines will be provided on the Blackboard page of the course.

Final grades will be determined at the end of the semester by calculating the total points accumulated. Grading cutoff is as follows:

- A: 93–100%
- A–: 90–92%
- B+: 87–89%
- B: 83–86%
- B–: 80–82%
- C+: 77–79%
- C: 73–76%
- C–: 70–72%
- D+: 65–69%
- D: 60–64%
- F: <60%

Class Policies

GVSU Email and Course Communications. Students are responsible for all communications sent via Blackboard or via their GVSU email accounts. GVSU student email can be accessed by visiting: mail.gvsu.edu and Blackboard at: mybb.gvsu.edu.

Assignments and Assessments. Each student is required to complete all learning activities by the due date deadline, as indicated in Blackboard. All assignments, graded discussions, quizzes, exams etc. are submitted electronically to Blackboard. There are several available computer labs (gvsu.edu/it/lab-hours-66.htm) available for you to complete course work.

Late/make-up policy. No late or make-up assignments or exams will be permitted. Students who do not complete requirements on schedule due to personal illness, accidents, family affliction, official university activities or religious holidays must provide documentation of the circumstances. I recognize there may be other special circumstances and students should reach out to me as soon as possible if this is the case. Extensions or late assignments will be accepted at my discretion.

Participation. A large part of the learning in this course comes not only from reading, but also from participating in class activities. Therefore, it is to your benefit to take advantage of these learning opportunities. While I will not formally mark student attendance, it is strongly recommended that you attend all classes to succeed in this course. In class we will cover some topics that are not discussed in the textbook, and some quiz and exam questions may refer to material only covered in class. You are responsible for material, announcements, and learning activities covered in class. If you miss a lecture, I recommend you obtain notes from at least two different classmates. In case of illness and/or special circumstances, please talk to me. I want everyone to be successful in the class and will support you to help that happen, but I do expect regular attendance in class and participation with course material throughout the semester. Please come to all

classes ready to engage as an active learner in class discussions and activities. Please treat everyone in the classroom with respect. Please limit electronic devices to classroom needs unless absolutely necessary. If conflicts for the class occur, please communicate with me as soon as possible. See the university's attendance policy in the online catalog for more information.

Accommodations. Students requiring accommodations should contact the instructor and accessibility services.

University Policies

Last Day to Drop. The last day to drop with a "W" is November 8. Students must initiate drop through Registrar (gvsu.edu/registrar/course-withdrawals-6.htm).

Student Code of Conduct. Standards of conduct are established in order to generate an atmosphere in which the goals and objectives of the institution can flourish. Individual rights can only be ensured with acceptance of individual and group responsibilities and respect for the rights of others. Individuals attending GVSU automatically place themselves under the applicable rules and regulations of the institution.

Academic Integrity. All course assignments, learning activities, and assessments, are to be authored and completed individually, by the student themselves. Failure to be able to correctly cite, explain and defend your submissions is an indication that it is not your work. While assisting another student in learning is part of the academic process, completing the assigned work as a team or group effort (with the exception of group projects as assigned by the instructor) is not allowed and will be considered Academic Dishonesty. No Academic Dishonesty will be tolerated, and such activity may result in failure of a specific assignment, an entire course, or, if flagrant, dismissal from Grand Valley. Compliance shall include compliance with the following specific rules:

1. No student shall knowingly, without authorization, procure, provide, or accept any materials which contain questions or answers to any examination or assignment.
2. No student shall, without authorization, complete, in part or in total, any examination or assignment for another person.
3. No student shall, without authorization, allow any examination or assignment to be completed, in part or in total, by another person.
4. No student shall knowingly plagiarize or copy the work of another person and submit it as his or her own.
5. No student shall submit work that has been previously graded or is being submitted concurrently to more than one course without authorization from the instructor(s) of the class(es) to which the student wishes to submit it.

For further information see the Student Code, and the consequences include penalties established by GVSU's Academic Integrity policy (https://www.gvsu.edu/conduct/academic-integrity-14.htm).

Plagiarism. Any ideas or material taken from another source for either written or oral presentation must be fully acknowledged. Offering the work of someone else as one's own is plagiarism. The language or ideas taken from another may range from isolated formulas, sentences, or paragraphs to entire articles copied from books, periodicals, speeches, or the writing of other students. The offering of materials assembled or collected by others in the form of projects or collections without acknowledgment is also considered plagiarism. Any student who fails to give credit in written or oral work for the ideas or materials that have been taken from another is guilty of plagiarism. Such activity may result in failure of a specific assignment, an entire course, or, if flagrant, dismissal from Grand Valley. For further information see the Student Code.

AI Policy Statement. [by David A. Joyner @davidjoyner@fediscience.org] We treat AI-based assistance, such as ChatGPT and Copilot, the same way we treat collaboration with other people: you are welcome to talk about your ideas and work with other people, both

inside and outside the class, as well as with AI-based assistants. However, all work you submit must be your own. You should never include in your assignment anything that was not written directly by you without proper citation (including quotation marks and in-line citation for direct quotes). Including anything you did not write in your assignment without proper citation will be treated as an academic misconduct case. If you are unsure where the line is between collaborating with AI and copying from AI, we recommend the following:

1. Never hit "Copy" within your conversation with an AI assistant. You can copy your own work into your conversation, but do not copy anything from the conversation back into your assignment. Instead, use your interaction with the AI assistant as a learning experience, then let your assignment reflect your improved understanding.
2. Do not have your assignment and the AI agent open at the same time. Similar to above, use your conversation with the AI as a learning experience, then close the interaction down, open your assignment, and let your assignment reflect your revised knowledge. This includes avoiding using AI directly integrated into your composition environment: just as you should not let a classmate write content directly into your submission, so also avoid using tools that directly add content to your submission.

Campus Emergencies. In case of fire, immediately proceed to the nearest exit during a fire alarm. Use a staircase, not an elevator. To sign up for campus emergency alerts and to access more information, please visit the GVSU Emergency website (https://www.gvsu.edu/emergency).

Learning Resources. See the "Help & Support" section of Blackboard for help with using Blackboard; a link to the Blackboard Student Mobile App and Blackboard IM; GVSU computer lab hours and locations; GVSU IT Help Desk (https://www.gvsu.edu/it/helpdesk/); accessibility and Disability Support Resources (https://www.gvsu.edu/dsr/).

Writing Center. The Fred Meijer Center for Writing, with locations at the Allendale and Pew/Downtown Grand Rapids campuses, is available to assist you with writing for any of your classes. Writing consultants, who are fellow GVSU students, are trained to help you with all stages of your writing process, from brainstorming to organizing to editing your papers. Simply bring a draft of your paper, the assignment sheet, and your questions/concerns to any of the Center's locations. Also, through your Gmail account, you have access to online consultations through Google Docs. The Center's services are free, and you can drop in and work with a consultant or make an appointment, either through our website or by calling the Center (331-2922). For more information about our services and locations, please visit the Writing Center website.

Psych Friends. If you feel you could use some extra help/guidance/support in any academic domain or for your well-being, please consider scheduling an appointment with a mentor through Psych Friends. Psych Friends mentors are upper-level undergraduate peer mentors who are trained to provide support in many areas including: effective study and time management techniques, exam preparation and reflection skills, comprehension of the psychology and behavioral neuroscience major requirements, tips for engaging in the field, strategies for education continuation, methods for maintaining physical and mental health. Schedule an appointment here: https://www.gvsu.edu/navigate and Questions? Email psychfriends@gvsu.edu

Disability Support Resources. If you need accommodations because of a learning, physical, or other disability, please contact your instructor and Disability Support Resources (https://www.gvsu.edu/dsr/). Furthermore, if you have a physical disability and think you will need assistance evacuating this classroom and/or building in an emergency situation, please make me aware so I can develop a plan to assist you. Assistive technology computers are available in many GVSU computer labs (https://www.gvsu.edu/dsr/accessible-computer-labs-68.htm). Also, Blackboard has a commitment to accessibility statement (blackboard.com/accessibility.aspx) providing information about accessibility in all of their products.

Mental health. Mental health concerns, including overwhelming stress, excessive worry, difficulty participating in daily activities, and changes in mood, appetite, or sleep patterns can interfere with your academic performance. College student surveys report that roughly 1 out of 3 students screen positive for a current mental health concern (Healthy Minds Study). GVSU values your health and wellness and provides services to support your mental health. If you would like mental health support or are concerned for another member of our campus community, reach out to the University Counseling Center for free resources, self-help options, and services. Also, visit Campus Recreation & Wellness for additional health and wellness programming.

Changes to the Syllabus. The instructor reserves the right to change the contents of this syllabus. Students will be given notice of relevant changes in class, through a Blackboard announcement, or through GVSU e-mail.

This course is subject to the GVSU policies listed at http://www.gvsu.edu/coursepolicies/.