

PSY 330: Foundations of Behavioral Neuroscience

Course Syllabus, sections 4, 5 & 8

Grand Valley State University, Department of Psychology

Fall 2023

Instructor Information

Professor. Paolo Campus, Ph.D.

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Office Hours. MW 11:00 a.m. – 12:00 p.m.; TR 1:00 p.m. – 2:00 p.m. or by appointment. I am also able to meet virtually by request.

Course Communication

Communication regarding assignments, materials, grades, announcements, and any other relevant course content will occur through Blackboard and in class. You are expected to check regularly (i.e., **every day**) both your GVSU email and Blackboard account.

The best way to contact me is via e-mail. I will do my best to reply within 24 hours to e-mails received during business hours (Monday-Thursday, 9:00 a.m. - 5:00 p.m.). I will be in limited contact during weekends, and I won't be able to reply until the following Monday. For urgent communication, make sure to write "URGENT" in the subject line of the e-mail, and I will do my best to reply as soon as possible. For questions best answered face to face, I will ask you to attend my office hours or set up an alternate time to meet with me.

Course Information

Credits. 3

Prerequisites. PSY 101

Course Format. Traditional (face-to-face)

Course Time & Location.

- **PSY 330-4:** TR, 2:30 p.m. – 3:45 p.m., Lake Superior Hall (LSH) 174
- **PSY 330-5:** MWF, 10:00 a.m. – 10:50 a.m., Au Sable Hall (ASH) 2310
- **PSY 330-8:** TR, 11:30 a.m. – 12:45 p.m., P. Douglas Kindschi Hall of Science (KHS) 2207

Required materials

Required Textbook. Carlson, N.R., Birkett, M. (2020) *Foundations of Behavioral Neuroscience* (10th edition). ISBN: 978-0-13-544912-7. Your course is participating in the GVSU SAVE program. This means your course material will be delivered to you via a link on the course's Blackboard Ultra page. The course is now live for the semester and you may access your course material at this time. You should have received a "Welcome Email" from Verba/VitalSource that explains the GVSU SAVE program. You have been charged for your course material on your GV student account. The deadline to opt-out of the SAVE program is [Friday, Sept. 8th](#). Please be aware, if you opt-out you will be responsible for purchasing the required course material on your own. For the instructions to opt-out, and more information about the program visit the GVSU SAVE website at: <https://lakerstore.gvsu.edu/gvsusave>. If you have any questions or are experiencing any issues, please contact lakersave@gvsu.edu.

Internet Access. All relevant content, such as announcements, lecture slides, assignments, grades, and other additional information will be posted on the course Blackboard page, available at <http://mybb.gvsu.edu/>

Computer/Tablet/Smartphone. Blackboard runs on Windows, Linux, iOS, Android, or any other electronic device with an up-to-date web browser.

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.

PDF Reader. Some material in this course may be presented in PDFs. To view these materials, you will need a [PDF reader](#).

Course Information

Course overview. The course is designed to provide a foundational knowledge of the neurobiological determinants of behavior. Over the course of the semester students will develop a fundamental understanding of:

- How the brain works, from molecules to neurons to complex neural circuits.
- The neurobiological mechanisms involved in the regulation of fundamental psychophysiological processes such as perception, hunger, sleep, cognition, emotion, and motivation.

The course will be divided into 4 learning modules. Each module will cover 3-6 chapters of the textbook. In the first module (chapters 1-5) we will discuss the foundations of behavioral neuroscience, including a brief historical perspective, structure and functions of the neuron, functional anatomy of the brain, psychopharmacology, and common research strategies in behavioral neuroscience. In the second module (chapters 6-10, 12) we will discuss the neural bases of sensation, control of movement, homeostatic processes (sleep, hunger etc.) and reproductive behaviors. In the third module (chapters 11, 13-14) we will discuss the brain mechanisms involved in the regulation of emotions, cognition, and human language. Finally, in the fourth and last module (chapters 15-17), we will discuss some of the most common brain disorders, with a special focus on neurodegenerative disorders (e.g., Parkinson, Alzheimer), affective disorders (e.g., depression, schizophrenia, bipolar disorder), anxiety disorders and substance abuse.

Course Objectives. By the end of this course, you will have a fundamental understanding of the brain organization and functions, as well as the relationship between brain processes and behavioral outcomes. You will learn about the current research strategies used by neuroscientists to investigate the relationships between brain and behavior. You will develop an appreciation of the critical thinking and problem-solving skills needed for conducting a scientific experiment and the potential to use such knowledge to enhance your future professional goals. You will have a deeper understanding of animal and human behavior, including how and why we feel certain emotions, how we handle stress, how we learn new information and how we remember the past and, in general, why we behave the way we behave. Last, you will have a better understanding of what it means when the brain fails and what is the cost in terms of mental health problems.

How to succeed. To do well in this course, you will have to:

- Read the appropriate chapters in the textbook and the corresponding lecture slides.
- Complete the course assignments (see details below). Exams will contain a mixture of content from the textbook and from class lectures. Therefore, although I will not take class attendance, I strongly recommend you attend classes.
- Make sure to check the course Blackboard page frequently to keep up with announcements, lecture slides, exams, and additional materials/info.

Methods of Evaluation

Grades will be determined by your scores on two types of assessment:

1. **Exams.**
2. **Literature Review.**

You can find below a breakdown of the points assigned and a brief description of the assessments.

Further details will be provided in class.

Assignment	Points	%
Midterm Exam 1	60	18.75
Midterm Exam 2	60	18.75
Midterm Exam 3	60	18.75
Final Exam	60	18.75
Literature review	80	25
Total	320	100

1. **Exams (240 points).** The course will have a total of four exams (3 mid-terms + 1 final), one for each learning module. The final exam will not be cumulative and will only cover the fourth learning module. Each exam consists of 60 multiple choices or fill in the blank questions. The questions will be based on the lectures and on the corresponding book chapters. The exams will be available on Blackboard, at least seven days prior to the due date. You can take the exam anytime during this window. Once you start, the exam can't be stopped and resumed, and must be completed within 45 minutes. During each exam, you may access lecture slides, textbook, notes, and the Blackboard page of the course. Use these resources sparingly: because of the time constraints, you won't be able to look up every answer. Therefore, the best strategy for

doing well is reading the material in advance. All the exams are open book. However, having 45 minutes to answer 60 questions means you must study for each exam, as you will not have time to look up the answers. Each exam is worth 60 points, for a total of 240 points (80% of the final grade).

2. **Literature Review (80 points)**. The purpose of this assignment is to introduce students to reading and criticizing research papers and to stimulate the development of critical thinking skills and independent learning strategies. Students will choose a topic of interest related to any of the topics covered in class and will have to find and read a literature of ~5 peer-reviewed journal articles that cover a specific aspect of a current area of investigation and write a mini review (2000 words max). The mini review should: 1) give a concise and clear summary of the state-of-the-art of the literature, 2) discuss strength and limitations of the current studies and, 3) highlight knowledge gaps and potential future developments in the field. The mini review should follow the APA style.

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

Percentage	Grade
93-100%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C

70-72%	C-
65-69%	D+
60-65%	D
<=59%	F

Class Policies

Attendance. 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.

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.

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.

University Policies

Last Day to Drop. The last day to drop with a “W” is November 10. 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/>.