PSY 330 08 - TR - Foundations of Behavioral Neuroscience (F22)

Instructor

Paolo Campus
Title: Ph.D.
Office Location: 2115 Au Sable Hall (ASH)

Class Times and Location:
Days, Times TR, 2:30 p.m. – 3:45 p.m.
Location: 1310 Au Sable Hall (ASH)

Email:
Twitter:
Web:
Office Phone:

Office Hours:	Time available	Time Available
Monday		
Tuesday		
Wednesday		4:30 p.m. – 5:30 p.m.
Thursday	10:00 a.m. – 12:00 p.m.	
Friday		

Blackboard Coursesite: mybb.gvsu.edu
Blackboard Student Mobile App: bit.ly/bbmobilestudent

Course Description

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:

1. How the brain works, from molecules to neurons to complex neural circuits.

2. The brain 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.

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.

Required Textbooks, Software, Accounts, and Supplies

Textbook: Carlson, N.R., Birkett, M. (2020) Foundations of Behavioral Neuroscience (10th edition). ISBN: 978-0-13-544912-7

Internet access: All relevant content such as lectures, lecture slides, articles, assignment instructions, and announcements can be accessed through the course website on Blackboard.

Other readings: All other required readings (e.g., articles) will be posted on Blackboard.

Learning Activities

Topics: (Note: The order and sequence of content is subject to change.)

	Date	Module	Lecture	Textbook Chapter
Tue	8/30/2022	1	**Syllabus & introduction**	1
Tue	9/6/2022	1	**The nervous system**	2
Tue	9/13/2022	1	**Neuroanatomy**	3
Tue	9/20/2022	1	**Psychopharmacology**	4
Tue	9/27/2022	1	**Research methods**	5
Sun	**10/2/2022**		**Module 1 Quiz (Chapters 1-5) due at 11:59 PM**	
Tue	10/4/2022	2	**Perception 1: Vision**	6
Tue	10/11/2022	2	**Perception 2: Audition and other Senses**	7
Tue	10/18/2022	2	**Movement control**	8
Tue	10/25/2022	2	**Sleep & wakefulness**	9
Tue	11/1/2022	2	**Reproductive & Ingestive behaviors**	10, 12
Sun	**11/6/2022**		**Module 2 Quiz (Chapters 6-10, 12) due at 11:59 PM**	

Sun	**11/6/2022**		**Midterm Exam 1 (Chapters 2-10, 12) due at 11:59 PM**	
Tue	11/8/2022	3	**Emotions**	11
Tue	11/15/2022	3	**Learning & memory**	13
Tue	11/22/2022	3	**Human language**	14
Sun	**11/27/2022**		**Module 3 Quiz (Chapters 11, 13-14) due at 11:59 PM**	
Tue	11/29/2022	4	**Disorders of the brain 1**	15
Tue	12/6/2022	4	**Disorders of the brain 2**	16, 17
Sun	12/11/2022		**Mini Review due at 11:59 PM**	
Sun	12/11/2022		**Midterm Exam 2 (Chapters 11, 13-17) due at 11:59 PM**	
Thu	**12/15/2022**		**FINAL - Module 4 Quiz (Final) due at 5:00 PM**	
Tue	12/20/2022		**Grades due**	
Thu	12/22/2022		**Grades available**	

Assessment & Grading

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

1. **Quizzes (240 points).** The course will have a total of four quizzes (3 mid-terms + 1 final), one for each learning module. Each quiz will consist 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 Canvas, under the "quizzes" tab, at least five days prior to the due date. Once you open the exam, you must complete it within 45 minutes. The final will not be cumulative and will only cover chapters 15-17 of the textbook.
2. **Exams (120 points).** The purpose of this assignment is to assess your ability to integrate and summarize concepts and ideas in a manner that goes beyond a simple repetition of facts. There will be 2 online exams that will be worth 60 points each. Each exam will consist of 2 short essays (30 points each) to choose from a list of questions that will be based on the lectures and on the corresponding book chapters. The exams questions will be made available in the Assignments section of Canvas. Further details on the exams will be provided in class.
3. **Mini Review (120 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.

You can find below a breakdown of the points assigned and a brief description of the assessments. Further details will be provided in class.

Points	Points	Overall score %
Module 1 Quiz	60	12.5
Module 2 Quiz	60	12.5
Module 3 Quiz	60	12.5
Module 4 Quiz (Final)	60	12.5
Exam 1	60	12.5
Exam 2	60	12.5
Mini Review	120	25
Total	**480**	**100**

Your grade will be determined using the standard campus grading scale shown below

93 – 100% A	80 – 82%B-	67 – 69% D+
90 – 92% A-	77 – 79% C+	63 – 66% D
87 – 89% B+	73 – 76% C	60 – 62% D-
83 – 86% B	70 – 72% C-	<60% F

Class Policies

GVSU Email and Course Communications

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

Social Media, Cloud Accounts, and Privacy

As an emerging professional, your online persona and "personal brand" is important. To provide an authentic experience with real-world application, social media and cloud service accounts (external to GVSU) will be required throughout the semester. These accounts you create and the work you author will be public, however, you will not be required to disclose any personally identifiable information such as your full legal name. Students are required to review all external account policies and end user account agreements as well as privacy statements for the associated service. If critical, students may use a pseudonym, alias, or enable privacy settings as long as the instructor is notified.

Under FERPA (www.gvsu.edu/registrar/ferpa-access-to-student-records-21.htm), as a student, your educational records are considered confidential. If you have any concerns about privacy, please contact the instructor immediately. Also please note that all course communications will fall under the Student Code of Conduct and Academic Integrity policies referenced below.

Grades and Extra Credit

Scores are posted in Blackboard as soon as possible after the due date. To see scores and detailed grading feedback, click "My Grades" from the Blackboard course main navigation.

I do not make it a practice to give extra credit, however, I will occasionally offer extra credit opportunities. Please do not ask if there is any extra credit that you can do to raise your grade. You shouldn't have to do anything "extra" to do well in this class.

Assignments and Assessments

Each student is required to complete all learning activities by the due date deadline, as indicated in Blackboard. **No learning activities or assignments are accepted late.** All assignments, graded discussions, quizzes, exams etc. are submitted electronically to Blackboard. No assignments are accepted via email, printed or any other method.

There are several available computer labs (gvsu.edu/it/lab-hours-66.htm) available for you to complete course work. Note: GVSU Lab Assistants are not tutors, however, they are available to help with lab computer issues. Your instructor is available to help with assignment questions (contact information is located in this syllabus and in Blackboard).

Attendance

- Students are responsible for material, announcements, and learning activities covered in class. Obtain lecture notes from a classmate if you miss class. You can communicate with classmates electronically via social media, Email and Bb IM (gvsu.edu/s/Wm).
- Some quiz and exam questions may refer to material covered only in class.
- There is a direct relationship between attendance and your grade. Simply put, if you miss class, your grade is negatively impacted. See the university's attendance (gvsu.edu/s/XZ) policy in the online catalog for more information.

University Policies

Registrar - Last Day to Drop

Last day to drop with a "W" is March 11. Students must initiate drop through Registrar (gvsu.edu/registrar/course-withdrawals-6.htm).

Disability Support Resources

If you need accommodations because of a learning, physical, or other disability, please contact your instructor and Disability Support Resources (gvsu.edu/dsr/) at 616.331.2490. 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 (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.

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

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 (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 HelpDesk (gvsu.edu/it/helpdesk/); accessibility and Disability Support Resources (gvsu.edu/dsr/).

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.