Psychology 435 (Section 02)
Advanced Neuroscience and Behavior
Fall 2022, T. Th. 1 – 2:15 pm in ASH 1204

Instructor: Xandra Xu, Ph.D.
Office: 2204 Au Sable Hall Mailing address: 1 Campus Dr., Allendale, MI 49401
Office Phone: 331-2411 Email address: xux@gvsu.edu
(Email is the best way to reach me. If you put your class number and section number in the subject line of your email, you typically receive a response within 2-3 business days. If you don't put your class number and section number in the subject line of your email, it will take longer time to receive a response.)

Office hour: T. Th. 2:30–3:30 pm in person at ASH 2204 or on Blackboard Collaborate at the following link: **https://us.bbcollab.com/guest/04bc13e0df7342fd925a1e58292953f8**

Please click the following link to schedule your appointment for a time slot on T. Th. 2:30–3:30 pm https://calendar.google.com/calendar/u/1?cid=Y19pYm4wYnZib2R0ODNobnJmdmFoZXNlbmlxMEBncm91cC5jYWxlbmRhci5nb29nbGUuY29t

Texts:
Required: Carlson, N. & Birkett, M. (2021). Physiology of Behavior (13th ed.), Pearson.

Course description:
This course will examine the physiological basis of behavior in depth. Among topics to be covered are the following: the nervous system, psychopharmacology, research methods used to study the physiological basis of behavior, and the neural mechanisms involved in perceptual and motor processes, ingestive behaviors, learning and memory, language, and neurological and psychiatric disorders. The topics already covered in Psy 330 will be covered in depth in this course. Lectures will focus on selected concepts and theories. Students will be responsible for all materials presented in the texts as well as lectures. Prereq. Psy 101 and 330.

Learning objectives:
Upon successful completion of this course, students will be able to:
Describe the process of action potential, including how and why they occur
Explain in detail the steps of neurotransmission
Identify the behavioral function of major brain chemical systems
Critique original research in behavioral neuroscience
Discuss current topics in behavioral neuroscience research

Course delivery/method of instruction:
This course is taught in face-to-face formats, but also using Blackboard for quizzes and assignments. Although the course blackboard contains video lectures used in previous semesters for your convenience, it is students' responsibility to make sure that they receive updated materials for this semester in class.

Course evaluation:
Exams and the Final Exam: There will be two within semester exams and a final exam. Each exam will be worth 50 points and the final exam 80 points. Exams and the final will consist of identification of brain structures, multiple choice, true-false, matching, and fill-in the blank questions. Multiple choice, true-false, and matching questions must be answered on the scantron sheet in order to receive any points for those questions. **Students are not allowed to use any external materials, such as books, notes, paper, any devises, during any exams.** In the final computation of your grade, the graded class participation 60 points described below will be included. The final grades will be based upon your percentage of total points (i.e., number of points you earned divided by total number of points possible, which is 240).
Missed exams and missed final exams: **Students must take exams as scheduled in this syllabus in person.** Any within semester exam that any student cannot take as scheduled in this syllabus is considered as a missed exam. Students with documentations that can substantiate legitimate reasons for missing a scheduled exam will either receive prorated points according to their performance on the final exam or take a different version of the

exam consisting of essay questions that are typically given during the final exam week. You must notify me your decision to receive prorated points or to take a make-up exam consisting of essay questions, and turn in the documentations to me within a week of the missed exam. If I do not receive a written notification and documentations within a week of the missed exam, you will receive "0". Students with legitimate reasons and documentations for missing the final exam as scheduled in the syllabus will take a different version of the final exam consisting of essay questions. Students without legitimate reasons for missing any scheduled exam or the scheduled final exam in this syllabus will receive "0".

Graded class participation: Class participation including quizzes, essay questions, and group presentation will be worth 60 points. Quizzes and essay questions will be given in the course blackboard, and are open-book and open-notes. Class participation including quizzes and essay questions is intended to guide students towards important concepts or theories or key issues and help students prepare for exams, and the class participation points (resulted from quizzes and essay questions that are open-book and open-notes) are intended to increase students' grade. Students receive participation points for demonstrating learning with the aid of books and notes. **Quizzes and essay questions are open-book and open-notes, but they are graded**. Students with legitimate reasons and documentations for missing a quiz will receive prorated points for the missed quiz based on their performance on the next quiz they take. Early in the semester, students will form groups of 3-4 people and choose a topic regarding neurological disorders. Each group will then make a presentation during the last week of the semester. The group will be evaluated by the class and the instructor on a scale of 1 to 10 with 1 being poor and 10 being excellent. The rating will then be converted into points. The group presentation will be worth 22 points, and other class participation together will be worth 38 points. **Note:** No individual students will be given any opportunity to earn extra points. Any opportunity to earn extra points will be given in class.

Grading:

A:	= or > 93%	C+:	= or > 77 % to < 80 %
A-:	= or > 90 % to < 93 %	C:	= or > 73 % to < 77 %
B+:	= or > 87 % to < 90 %	C-:	= or > 70 % to < 73 %
B:	= or > 83 % to < 87 %	D+:	= or > 65 % to < 70 %
B-:	= or > 80 % to < 83 %	D:	= or > 60 % to < 65 %

Course Schedule: (Underlined dates are exam dates)

Date	Topic	Reading assignments
Aug. 30, Sept. 1	Neurons and synapses	Chapter 2
Sept. 6, 8	Neuroanatomy	Chapter 3
Sept. 13, 15	Psychopharmacology	Chapter 4
Sept. 20, 22	Methods and strategies of research	Chapter 5
Sept. 27, **29** (2-5)	**Exam I**	
Oct. 4, 6	Vision	Chapter 6
Oct. 11, 13	Audition, and the body and chemical senses	Chapter 7
Oct. 18, 20	Control of movement	Chapter 8
Oct. 23-25	Fall Break	
Oct. 27	Ingestive behavior	Chapter 12
Nov. 1, 3	Ingestive behavior con't	
Nov. **8** (6-8, 12), 10	**Exam II** and Learning and Memory	Chapter 13
Nov. 15, 17	Learning and Memory con't	Chapters 13 & 14
Nov. 22	Human communication	Chapter 14
Nov. 29, Dec. 1	Psychiatric disorders	Chapters 17 & 18
Dec. 6, 8	Neurological disorders (student presentations)	Chapter 16

Dec. 13, Tue. 12 – 1:50 pm: Final Exam (2, 3, 4, 13, 14, 16, 17, 18)

Drop deadline - grade of "W" - Fri., Oct. 28, 5 pm.

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

Academic Integrity

Students will do original work and will not take or receive the efforts of another person on any test or assignment, use unauthorized resources on quizzes or tests, plagiarize, or give/sell other students papers or assignments *not authorized by the instructor*. ***You are responsible*** for not giving the appearance of cheating, such as wondering eyes or talking during exams. ***You are responsible*** for making yourself aware of and for understanding the policies and procedures that pertain to academic integrity. To that end, be sure to familiarize yourself with the GVSU Student Code related to academic integrity and Integrity of Grades & Scholarship.

Disability

If there is any student in this class who has special needs because of a learning, physical, or other disability, please contact me and Disability Support Resources (DSR) at (616) 331-2490. Furthermore, if you have a disability and think you will need assistance evacuating this classroom and/or building in an emergency, please make me aware so that the university and I can develop a plan to assist you. It is the *student's responsibility* to request assistance from DSR.