

PSY435: Advanced Behavioral Neuroscience

Class Description: This course emphasizes the study of bodily structures, processes, and mechanisms related to various aspects of the organism's interactions with the environment.

Course Objectives:

- 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, explain their role in the healthy brain as well as disorders.
- Critique original research in behavioral neuroscience, identify limitations to current knowledge, integrate information from varying sources into a cohesive whole
- Discuss current topics in behavioral neuroscience research

Course Requirements:

- Prerequisite: PSY 330
- [Technology](#)
- [MS Office](#)
- [Zoom](#)
- [Panopto](#)

There is no textbook required for purchase. We will use only open-access resources!

This course uses BB ULTRA, which only works in Chrome browser. You are enrolled in the [Ultra Course Online Orientation](#)- found in the list of courses under “Professional Development” [link](#). The orientation provides a basic overview of the new functionality of Ultra and many of the tools you’re expected to use. It takes roughly 20-25 minutes to complete. Save the certificate at the end of the orientation to submit for this course.

Class Meeting Times:

435_03 10 - 11:15am ASH 1310

435_02 1-2:15pm ASH 2132

Important Due Dates:

2/16/23: Test 1

4/4/23: Test 2

4/12/23: Project Due Date

Final Exams

435_03 Thursday 4/27/23 10-11:50am

435_02 Tuesday 4/25/23 12 – 1:50pm

Grading

In-class assignments: 10%

Online quizzes and surveys: 10%

Tests: 30%

Project: 30%

Contribution / Citizenship: 20%

Instructor: Dr. Elizabeth Flandreau, PhD
(she/her) flandree@gvsu.edu

Virtual Office Hours:

<https://calendly.com/flandree/flandreau-office-hours>

About the instructor: Dr. Flandreau has a BA in biology from Lawrence University and a PhD in Neuroscience from Emory University. She worked as a postdoctoral fellow at the Salk Institute and UCSD prior to joining GVSU in 2015. Her research explores biological underpinnings of psychiatric disorders.

Dr. Flandreau’s [full publication list](#).

Course Structure: Responsibilities

PREPARE

Before Class:

- Lecture Videos
- Textbook Reading
- Team Meetings

* Extra Help: Discussion boards; Office Hours

PRACTICE

During Class:

- Q&A with professor
- Group activities to apply your knowledge
- Class discussions

REVIEW

After Class:

- Review & Consolidate
- Complete assignments
- Make connections across topics

* Extra Help: Discussion Boards; Office Hours

Attendance & Contribution are expected and rewarded.

Class meetings offer new ways to understand the materials and are designed so that your learning is an active process to increase knowledge retention. In-class time will also be used to work on team assignments. You do **not** need to inform me if you must be absent but should contact your team. If you are regularly unable to attend, please discuss with instructor. In class assignments ('mini-quizzes') account for 10% of your grade (see schedule). If you are regularly unable to attend, please see me ASAP to work something out.

Teams

You will work in a team to summarize and present a journal article to the rest of the class. You are being asked to do this as a team to allow you to draw on the experience and expertise of your classmates, making the project more manageable than it would be if you had to do it by yourself. Furthermore, professional researchers and health care professionals work as part of a team. This experience will provide you with a realistic experience of working in a team that can help develop your teamwork skills for the future.

To support you in this process, I will ensure that teams are balanced with respect to student background and expertise. The project is divided into chunks so you will receive feedback on your progress. Additional instructions and guidance can be found on our blackboard site.

Resources & Policies

Getting Help: I encourage everyone to attend virtual office hours, visit [the student academic success center](#) and seek out a tutor through the [tutoring center](#) or [Psi Chi](#).

Office Hours provide one-on-one access to your instructors and can be used to ask questions about course content, grades, academic and career choices, or just get to know each other. Whether it's 30 seconds or 30 minutes, office hours exist for you to receive instructor support <https://calendly.com/flandree/flandreau-office-hours>

Library Resources: The GVSU library has additional resources related to understanding and producing scientific writing as well as important information on how to cite sources and avoid plagiarism. Students in this 400-level course are expected to find and use these resources while completing course objectives <https://www.gvsu.edu/library/km/>

Official Accommodations:

Please work with DSR (<https://www.gvsu.edu/dsr/>) and communicate with me (preferably during the first week of the semester) to make sure your needs are met in this course.

Expectations of Inclusion:

The purpose of this course is to learn neuroscience. Please treat your classmates and instructors with respect in person, on zoom and in email. In particular, it is unacceptable to judge others by gender, race, or for any other reasons. If you have any concerns, please contact me or the GVSU division of inclusion and equity (616) 331-3296)

- Please review GVSU's policy on [Anti-Racism](#) and [Title IX](#)

To be considered for credit, all assignments must adhere to the following:

1. Filename for Attachments is your name or team number plus the homework title (e.g. FlandreauDefinitions or Team1ArticleSummaries)
2. Attachments must be MS office
3. Name / Team names & Team Number should be at the top of all attachments
4. Documents constructed in an easy-to-read, clearly organized format, APA 7th edition format is preferred.
5. All assignments must be free from plagiarism and must meet the "own voice" standard. *Every member of a team is responsible for the integrity of a team assignment please make sure you personally review everything before it is turned in.*
6. Scheduling-conflicts for deadlines must be resolved *before* the deadline.
7. Online assignments with a Friday deadline will still be considered for full credit until 11:59pm SUNDAY. Late assignments after this grace period cannot be accepted without prior planning with very very few exceptions (see me ASAP to discuss if needed).

Expectations of Integrity

Expectations of Integrity: Earning a degree from GVSU means you achieved knowledge, skills, and abilities worthy of that degree. Please do not short-change your education through cheating, plagiarizing, or dishonesty. Instructors are required to report academic integrity violations.

- Please Review GVSU’s requirements for academic integrity:

<https://www.gvsu.edu/osccr/academic-integrity-14.htm>.

If you have any questions about these expectations, please ask me!

How to meet the integrity standards for GVSU

Make sure you know which resources you’re allowed to use

- Resources you can (and should!) use for homework:
 - Your classmates (online discussion boards; team meetings)
 - Your textbooks (with proper citations)
 - Your instructor (discussion board; class meetings; office hours)

Always Cite your sources

- In-Text and end of text citations MUST be in [APA 7th Edition](#) format and should be used when you’ve gained ideas, understanding, words, or definitions from a source

If you have questions, ask!

Flandreau Own Voice Standard: This class requires integrating content across topics and demonstrating knowledge through application. You will be asked to “predict” an outcome or “explain” a process. Correct responses require using vocabulary flexibly and with meaning. To this end, *everything* you submit must be in your [own voice](#). This is a higher standard than simply “did not plagiarize.” Direct quotations and paraphrasing are incompatible with this standard. Students will have an opportunity for a replacement assignment for a first own-voice violation. Additional submissions that do not meet this standard cannot be considered for credit.

How to meet the “Own Voice” Standard: Most own-voice violations are not a malicious attempt at fraud but rather accidental due to insufficient record-keeping or poor understanding of the purpose and process of citation. Here are some important suggestions to ensure that you are truly writing in your own voice.

- Take careful notes: identify the source of the notes at the top of the page. Do not copy down words or phrases directly from the source.
- Avoid using notes while you craft your answers. Being able to speak from memory is a great way to demonstrate that you’ve mastered the content and are using your own voice.
- Read your answers aloud. Does it sound like something you would say? Do you understand every word you’ve written? If not, you may need to do a bit more work at the [understanding and remembering stages](#) and then re-write.
- Ask Questions: Are you unsure what a question is asking? Unclear about how to approach the topic? Use discussion board, ask questions in class, meet with your team, and make an office hours appointment with Flandreau! I’m here to support you!

Part 1: Course Schedule

Detailed module requirements including reading guides and individual and team assessments are found in the weekly modules on BB.

Week	Date	Day	Topic (arrive to class prepared)	DUE
1	1/10/23	Tues	Syllabus, Technology Requirements, Secrets to success, schedule, Neuro Hit or Myth	
	1/12/23	Thurs	Primary research vs. scientific communication	<i>Optional (EC) Pre-Test</i>
	1/13/23	Fri-Sun		<i>Syllabus Quiz</i>
2	1/17/23	Tues	Neuroanatomy	Mini-Quiz 1 - Neuroanatomy
	1/19/23	Thurs	Neuroanatomy Case Studies / Media	Reflection Survey #1 (Google Forms + BB) Team Assignment Survey (CATME + BB)
	1/20/23	Fri-Sun		
3	1/24/23	Tues	Communication within neurons (Vm, AP, Myelin, Saltatory Conduction)	Mini-Quiz 2
	1/26/23	Thurs	Meet your team: Active learning how and why; roles within teams, purpose of project; attendance required	
	1/27/23	Fri-Sun		Team Process Statement
4	1/31/23	Tues	Communication between neurons (Neurotransmitters; Drugs)	MQ3
	2/2/23	Thurs	Own voice, how to read an article, citations	Reflection Survey #2 (Google Forms + BB)
	2/3/23	Fri-Sun		
5	2/7/23	Tues	Primary research article #1	MQ4
	2/9/23	Thurs	Podcast / Sci Com #1 / Team Contract	MQ5
	2/10/23	Fri-Sun		Own Voice/Citation Quiz
6	2/14/23	Tues	REVIEW for 'Test #1 & MQ "makeup"'	
	2/16/23	Thurs	Test #1: neuroanatomy, communication within / between neurons, NTs, psychopharm; Sci Comm.	
	2/17/23	Fri-Sun		

Part 2: Course Schedule

Detailed module requirements including reading guides and individual and team assessments are found in the weekly modules on BB.

Week	Date	Day	Topic (arrive to class prepared)	DUE
7	2/21/23	Tues	Article Selection (All individuals must attend; team must arrive with top 3 articles ranked)	Article Selection (Rank Top 3 Choices)
	2/23/23	Thurs	Techniques and topics in neuroscience (relevant to article options)	MQ6
8	2/24/23	Fri-Sun		Reflection Survey #3(Google Forms + BB) How to read a scientific article notes
	2/28/23	Tues	Techniques and topics in neuroscience (relevant to article options)	MQ7
	3/2/23	Thurs	Main point and significance of article (All individuals must attend; team must arrive with main point / significance statement)	Discussion; Q&A
9	3/3/23	Fri-Sun		Revised Main Point and Significance of article
	3/6/23	Mon	SPRING BREAK	
10	3/14/23	Tues	Techniques and topics in neuroscience (relevant to article options)	MQ8
	3/16/23	Thurs	How to evaluate figures / results/ interpretation; Figures for discussion	All individuals expected to attend
11	3/17/23	Fri-Sun		Figures for discussion TEAM evaluation survey #1 (CATME + BB)
	3/21/23	Tues	Meetings with Flandreau Teams 1-3; Teams 4-6 team meetings outside of class	<i>All team 1 - 3 individuals expected to attend</i>
	3/22/23	Weds	TEAMS 1 - 3 Presentation outline with own voice explanations of vocab terms appropriate for target audience.	
12	3/23/23	Thurs	Techniques and topics in neuroscience (relevant to article options)	MQ9
	3/24/23	Fri-Sun		Reflection Survey #4 (Google Forms + BB)
	3/28/23	Tues	Meetings with Flandreau Teams 4-6; Teams 1-3 team meetings outside of class	<i>All Team 4-6 individuals expected to attend</i>
13	3/29/23	Weds	TEAMS 4-6 Presentation outline with own voice explanations of vocab terms appropriate for target audience.	
	3/30/23	Thurs	PART 2 REVIEW	& MQ "makeup"
	3/31/23	Fri-Sun		
13	4/4/23	Tues		TEST 2
	4/6/23	Thurs	Optional meeting with Flandreau (email in advance to sign up). Otherwise, meet with teams, finalize PPT and script.	Optional EC Post Test
	4/7/23	Fri-Sun		

Part 3: Course Schedule

Detailed module requirements including reading guides and individual and team assessments are found in the weekly modules on BB.

Week	Date	Day	Topic (arrive to class prepared)	DUE
14	4/11/23	Tues	Asynch class: Finalize / Record team presentations	
	4/12/23	Weds		
	4/13/23	Thurs	Asynch Class; Finish Project---Video presentations due by 11:59pm	
	4/14/23	Fri-Sun		Peer evaluation of teammates (CATME + BB)
15	4/18/23	Tues	Asynch class, watch and evaluate peers' videos	
	4/19/23	Weds		
	4/20/23	Thurs	Asynch class, watch and evaluate peers' videos	
	4/21/23	Fri-Sun		Reflection Survey #5 (Google Forms + BB)
16	4/25/23	Tuesday	12pm - 1:50pm	
	4/27/23	Thursday	10am - 11:50am	