



PSY330: Foundations of Behavioral Neuroscience

What do MRIs tell us about if someone is to blame for a crime? What is the science behind happiness and, perhaps more importantly, fear? How can someone think they are blind yet still be able to see?

We have billions of neurons in our brain that underlie everything we do, from dreaming to falling in love, yet we know very little about how our brain performs our daily functions. This class is designed to help you understand how our brain causes our behavior and to (hopefully) ignite your interest in what we call neuroscience.

I specifically want you to appreciate the complexity of the brain and how it relates to the complexity of behavior. At the end of the semester, you will be able to do the following:

1. Identify the structure and function of the major parts of the nervous system at a cellular and systems (functional neuroanatomy) level
2. Describe the process of action potentials
3. Describe the process of neurotransmission
4. Identify the behavioral function of major brain chemical systems
5. Discuss basic research in behavioral neuroscience
6. Relate biological processes to everyday behavior

Format:

In class, you will be doing activities and quizzes in between watching videos of me discussing material and reading a book. The goal of the short videos with activities is to keep your attention because psychological research says our attention span is incredibly short. I will be both presenting the material from the book in a new way and giving you brand new information. The way I set this class up is based on research suggesting that these methods will help you succeed, and helping you succeed is my job as your professor.

There are plenty of ways to get points in this class, from activities to assignments and (finally) on tests. I recognize that not everyone is a good test-taker, so there are lots of opportunities to succeed outside of that for a reason- but it does mean that you must stay on top of your work because there will be things due pretty much every day. I can't cover everything from the reading so you will have a mix of readings, assignments, and activities to not be bored!

The Class:

Fall 2025: Sec 04

Online asynchronous

For this class, this means that you don't have a scheduled time to meet but you DO have scheduled due dates and should be doing things weekly if not daily for this class

The Professor:

Dr. Natasha Swalve

swalven@gvsu.edu

Student Hours:

2137 Au Sable

M: 11-1 pm (on Zoom)

Tu/Th: 2:30-3:30 pm (in person)

No need to set up an appointment- just stop in via the zoom link or my physical office! If these times don't work, we can always set up a different time- just send an email!

The Book:

Carlson & Birkett: Foundations of Behavioral Neuroscience. 10th edition. Pearson. 9780137533619

This is offered through the GVSU save program (details on BB Ultra) but feel free to use a physical version or older version!

Points/Grades:

Exams: 200 points (50 pts/test)

Article Responses: 60 pts (10 pts each)

Assignments: 90 pts (10 pts each)

Video Activities: 50 pts (2 pts each)

Total: 400 points

I will round your grade up. You can determine your grade by counting your earned pts and dividing by the total.

A: 94-100%

A-: 91-93%

B+: 88-90%

B: 84-87%

B-: 81-83%

C+: 78-80%

C: 74-77%

C-: 71-73%

D+: 68-70%

D: 60-67%

F: 0-59%

This syllabus is subject to updates and changes throughout the semester

Class Policies & Expectations

Exams:

You will take 4 online exams throughout the semester listed by the dates on the syllabus. The goal of these exams is to have you apply the material you've learned, not simply repeat it. Exams must be taken by the deadline; if they are late, I will automatically take off 50%. You CANNOT use AI on tests—if you do, you will receive a zero on the entire test. If I suspect that you're using AI, we will set up a meeting. The test is supposed to measure your knowledge. These tests will be proctored so if you're not comfortable with this, I recommend taking the class in person instead.

Assignments:

The goal of this course is to get you to understand how the material relates to your own life. Thus, throughout the semester you will have a variety of assignments on the topics covered in class. You will also need to read articles and annotate them on Perusall. These assignments can be turned in late—you will lose 50% of the original grade if they're late by even a minute but I will accept them until the last official day of class. **If you need an extension, let me know before it's due- it's not an issue to give you an extension but I cannot give one out after it's due!** More information on these assignments is posted on BB Ultra.

Activities:

There will be daily activities based on the videos from the course. This will help you synthesize the information, apply the material you just learned, and stay on track with the coursework. These points can also help if you're not necessarily great at taking tests.

Emails:

I typically email back very quickly but, like you, I have a busy schedule. My guarantee is that I will respond in 48 hours. If something is an emergency or urgent, put that in the subject line so that I know to try to get back to you sooner (if possible). I will try to respond as soon as I can but there are no promises that it will be done quickly, especially not during business hours, so keep that in mind when studying for tests and doing assignments. Since this class is fully online, you NEED to stay on top of your emails and course announcements!

Technology:

Everything required for this class will be posted on Blackboard Ultra, which means that you will need a computer and internet. If you're struggling with having access to a regularly working laptop, please visit [this site](#) for potential help. I use Zoom for virtual meetings, and **you will be expected to turn things in in either .doc or .pdf form.** GVSU provides access to [Microsoft Office 365](#) and the [Zoom business license](#) for free.

Staying on Track:

I have set up this course so that you will have something due weekly. This will help you set up a routine, which will make it less likely that you will forget things. However, this can be paced out differently, so I made due dates a little later than the original day in case you have other obligations. If you end up getting behind, let me know as soon as possible and we will come up with a plan!

Academic Integrity:

I understand that you don't come to class expecting to commit academic dishonesty, so make sure to take a look at what constitutes it [here](#). **Common examples include using ChatGPT or other AI including Grammarly to complete assignments,** presenting work from other students as your own, or taking information directly from others without appropriate citations. I want to read your original thoughts, so everything needs to be in your own words. If I suspect something is AI, I will ask you to meet about it. If you do cheat, you will receive a failing grade for that activity and other consequences as laid out in GVSU's policy. This can be up to receiving an F for the class. You will also be reported to the Office of Student Conduct and Conflict Resolution.

Accommodations:

If you need accommodations, the office of Disability Support Resources is here to help, and I am as well! I will need a memo outlining accommodations from them first to work with you to make sure we're abiding by the federal/state laws. Please contact Student Accessibility Resources by calling 331-2490 or emailing access@gvsu.edu. My goal is to have you come out of this class understanding the material, so I want to work with you to achieve that. All information related to accommodations will be confidential. If you wish to speak with me about specific needs, I'm always available via email or via a meeting, depending on your comfort level.

Psych Friends Peer-to-Peer Mentors

Psych Friends mentors are upper-level psychology and behavioral neuroscience students who are trained to provide support in many areas, such as: effective studying and time management techniques, exam preparation and reflection skills, understanding the PSY and BNS major requirements, potential jobs and careers in the field, the process of applying for graduate school, and how to maintain physical and mental health as a student. Visit <https://www.gvsu.edu/navigate> to schedule an online or in-person meeting today!

This course is subject to the GVSU policies listed [here](#).

Course Schedule

Date	What We're Talking About	Read This	Turn This In	Watch
8/26 Tu	Introduction	Ch. 1.1 (Nature of Beh. Neuro)	Activity 1	Video 1
8/28 Th	Neurons	Ch. 2.1 (Cells of the Nervous System)	Activity 2 Assignment 1	Video 2/3/4
9/2 Tu	Neurotransmission	Ch. 2.2 (Com. Within a Neuron)	Activity 3	Video 5/6
9/4 Th	Neurotransmitters	Ch. 2.3/4.3 (Com. Between Neurons/Neurotransmitters & Neuromodulators)	Activity 4 Assignment 2	Video 7/8
9/9 Tu	Neuroanatomy	Ch. 3 (all)	Activity 5 Article Response 1	Video 8
9/11 Th	Methods	Ch. 5 (all)	Activity 6	Videos 9/10
9/16 Tu	Test 1			
9/18 Th	Vision	Ch. 6 (all)	Activity 7 Article Response 2	Videos 11/12
9/23 Tu	Hearing	Ch. 7.1 (Audition)	Activity 8 Assignment 3	Videos 13/14
9/25 Th	Mechanical Sense	Ch. 7.2/7.3 (Vestibular System/Somatosenses)	Activity 9	Videos 15/16/17
9/30 Tu	Chemical Senses	Ch. 7.4/7.5 (Gustation/Olfaction)	Activity 10 Article Response 3	Videos 18/19/20
10/2 Th	Thirst/Hunger	Ch. 13 (all)	Activity 11 Assignment 4	Videos 21/22/23
10/7 Tu	Temperature		Activity 12	Videos 24/25
10/9 Th	Test 2			
10/14 Tu	Stress	Ch. 17.2/17.3 (Stress/PTSD)	Activity 13 Assignment 5	Videos 26/27/28
10/16 Th	Drugs and Addiction	Ch. 4.1/4.2 (Principles/Sites of Drug Action)	Activity 14	Videos 29/30
10/21 Tu	FALL BREAK			
10/23 Th	Emotions	Ch. 11 (all)	Activity 15 Assignment 6	Videos 31/32/33
10/28 Tu	Sexual Differentiation	Ch. 10.1/10.2 (Sexual Development/Hormonal Control)	Activity 16	Videos 34/35/36
10/30 Th	Reproduction	Ch. 10.3-10.5 (Neural Control, Sexual Orientation/Parental Beh.)	Activity 17 Article Response 4	Videos 37/38/39
11/4 Tu	Neuroscience in Society		Activity 18	Videos 40/41/42
11/6 Th	Sleep	Ch. 9 (all)	Activity 19 Assignment 7	Videos 43/44/45

11/11 Tu	Test 3			
11/13 Th	Learning and Memory	Ch. 13.1/13.2/13.6 (Overview/Stimulus-Response/Long-Term Potentiation)	Activity 20 Assignment 8	Videos 46/47
11/18 Tu	Language	Ch. 14 (all)	Activity 21 Article Response 5	Videos 48/49
11/20 Th	Disorders I	Ch. 16.2-16.4 (Affective Disorders/Anxiety Disorders/OCD)	Activity 22	Videos 50/51/52
11/25 Tu	Disorders II	Ch. 15 (all)	Activity 23	Videos 53/54/55
11/27 Th	THANKSGIVING BREAK			
12/2 Tu	Schizophrenia	Ch. 16.1 (Schizophrenia)	Activity 24 Assignment 9	Videos 56/57/58
12/4 Th	Neurodevelopmental Disorders	Ch. 17.1 (Neurodevelopmental Disorders)	Activity 25	Videos 59/60
12/8 week	FINALS WEEK: Test 4			