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**Final Exam:** 330\_04 Monday, 4/22/19 10:00am – 11:50am  
330\_03 Wednesday, 4/24/19 8:00am – 9:50am

### Required Reading:

1. Carlson Physiology of Behavior 12<sup>th</sup> Edition\*
2. Neuroscience Online <https://nba.uth.tmc.edu/neuroscience/>
3. Khan Academy [www.khanacademy.org](http://www.khanacademy.org)

*\* There should be a copy of this text on reserve at the library. I recommend having a personal copy, but it doesn't matter to me if you have the physical or digital text*

### Course Description

- **GVSU catalog:** This course emphasizes the study of bodily structures, processes, and mechanisms related to various aspects of the organism's interactions with the environment. Topics covered include neurophysiological correlates of cognition, memory, motivation, emotion, attention, and sensory processes.
- **Flandreau:** This neuroscience course examines the biological underpinnings (aka "neurophysiological correlates") of psychology including perception, emotion, and behavior.

**Course Objectives:** My goal is for each student to learn the structures and functions of neurons and neural systems, as well as skills, strategies, and ways of thinking about neuroscience. From Syllabus of Record

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 and compare and contrast the specific process of synaptic transmission for diverse neurotransmitters and receptors.
4. Identify the behavioral function of major brain chemical systems; predict the effect of damage to these cells, pathways, or structures.
5. Describe the general principles of psychopharmacology and predict the effect of specific drugs on synaptic transmission, perception, emotion, and behavior.
6. Discuss basic research in behavioral neuroscience; critique scientific claims, identify limitations to current knowledge, integrate information from varying sources into a cohesive whole
7. Relate biological processes to everyday behavior including sensory perception, learning and memory, & neurodegenerative and psychiatric disorders.

**Skills:** In addition to learning neuroscience content, there are several skills that you will gain / improve during this course. These are EMPLOYABLE skills no matter what direction life takes you.

1. **Time management:** The course is structured where you familiarize yourself with the material BEFORE class and then work through the challenge of UNDERSTANDING the material during class time. After class you will consolidate this understanding. This process requires time-management skills.
2. **Directed Reading:** As you familiarize yourself with the material it will be important to read the portions of the textbook that are relevant to what we cover in class. Learning to engage in meaningful, directed reading is a great skill.
3. **Team Work:** You will work in teams all semester and will need to be able to establish a contract, hold each other and yourselves accountable, and coordinate to produce a quality product.

4. **Communication:** Each individual will be expected to communicate verbally in class and during team meetings, and through written communication in homework and online discussion boards.
5. **Critical Thinking:** In this course you will be asked to look for patterns in the material, identify similarities and differences across topics, and link together diverse pieces of information into a cohesive scaffold.
6. **Following Directions:** I know exactly zero people who enjoy following – for example – APA formatting. And yet, it is an important and marketable skill to identify and follow what may seem like meaningless and annoying instructions. Your future employers will be glad you have this skill!
7. **Microsoft Office:** You will use MS Word and PowerPoint in this class. Competency in these programs is assumed by all employers and graduate programs.

**Academic Integrity:** It is your responsibility to maintain academic integrity and avoid appearance of a violation of the GVSU Student Code [Section 223.01]. If you are uncertain prior to submission of an assignment, project, or test, please see the instructor as soon as possible. The materials presented in this class are copyright protected and may not be used without the express prior consent of the instructor. Intentional misuse of the intellectual property of another may subject the user to penalties up to and including dismissal. At instructors' discretion, a violation of this code of conduct may result in failing the assignment or the course. Violations are reported to the Dean. NOTE: *Taking another's words and swapping out synonyms or word order even with citation is **plagiarism** and violates academic integrity.* <https://lifehacker.com/this-flowchart-explains-the-severity-of-different-types-1637797055>

### PSY330 GRADING

Category	Item	Number	Points (ea)	Points (total)	Percentage	Notes
Quizzes	Syllabus	1	5	5	1.00	
	Reading	13	5	65	13.00	14 currently on schedule
Participation	Attendance, Participation, and Contribution to team	n	n	30	6.00	On time arrival in at least 9/10 required attendance days, fully contribute to team in and outside of class on 3 written assignments and presentation
	Discussion Boards	4	2	8	1.60	5 on schedule
Homework	Group Homework	2	30	60	12.00	3 total assignments
	<i>Lowest Homework</i>	1	5	5	1.00	
	Research Article Approval	1	5	5	1.00	(related to homework #3)
	Research Article PPT Slides	1	5	5	1.00	(related to homework #3)
	Research Article Presentation	1	12	12	2.40	
Exams	Midterm	2	90	180	36.00	3 total midterms
	<i>Lowest Midterm</i>	1	25	25	5.00	
	Final	1	100	100	20.00	Cumulative
	<b>TOTALs</b>			<b>500</b>	<b>100</b>	

$Grade = \text{Earned Points} / \text{Total Points} \times 100$

A	93-100%	B	83-86.99%	C	73-76.99%	D	60-66.99%
A-	90-92.99%	B-	80-82.99%	C-	70-72.99%	F	0-59.99%
B+	87-89.99%	C+	77-79.99%	D+	67-69.99%		

*Please take a moment to consider what each grade means:*

- **C:** You did the necessary work, you learned the basic material – you know the correct answers.
- **B:** The above, plus you could teach the material to a friend. You understand the correct answers.
- **A:** The above, plus you can use the material flexibly and adaptively. You understand WHY the answers are what they are, and how this relates to material from other classes.

## Description of Graded Items

### Quizzes

*Syllabus quiz:* The syllabus is an important document and success in this course necessitates understanding the requirements. This quiz is different than the others. You can still take it up to 3 times, but the **HIGHEST** grade will be used... as long as that is a **PERFECT SCORE**. **If you earn less than a perfect score after 3 attempts, your final grade for this quiz will be 50%.**

*Reading Quizzes:* Online quizzes are designed to ensure students arrive prepared for class. These are open note and come from a pool of questions. Typically, 10-20 questions are randomly selected each time. You can take each quiz 3x and your grade will be the average. Online quizzes provide instant feedback with low stakes and tend to have a positive impact on students' overall grade. **See due dates on schedule.**

### Participation:

*Discussion Board (DB):* Peer-instruction helps to make complex material more accessible. Use the DB for **all** content questions. I read DB threads to address misunderstandings, guide you to the best resource, and identify topics that require more class time. Post one question and answer one question by the due date (**see schedule**). Grading is based on completion. Students who make full use of the discussion board tend to perform better on exams than students who do not use the DB.

*In-Class Attendance:* We have several dates throughout the semester where attendance is required because of group work. If you are absent, please meet with your group in advance to ensure you can fully participate in the homework assignment. **Grading is based on on-time arrival, active participation, and overall contribution to group work.** See dates on schedule.

### Homework:

*Group Homework:* Assignments are designed to help you learn to find, digest, and discuss, complex material and to forge meaningful interactions with other humans. See BB for specific instructions and in-class and online due dates. *If your group is struggling, please see me ASAP, I can help facilitate group communication.* Assignments that do not meet the submission requirements (see checklist below) **will earn a zero**. *A note on BB:* BB can be finicky. Please do not wait until the last minute to submit your work. Each assignment can be uploaded more than once to account for any BB or group issues. The instructor will only view the final submission.

#### **Checklist for assignments to be considered for credit:**

- Submissions must be in Microsoft Word
- Filename **MUST** be Section#Group#Homework#. It's insufficient to just name the file within BB; it must be the name of the file on your computer.
- Group number and group member names should be at the top of the first page of the submitted assignment.
- Late submissions cannot be accepted.
- Emailed submissions cannot be accepted.
- All assignments must be **in your own voice** with **no hint** of plagiarism. Each individual is responsible (and will be held accountable) for academic integrity of the group assignment.
- Where applicable, resources must be cited in APA style

### Exams

*Exams:* Topic-specific learning objectives are your study guides. Where there is choice on exams, X out the question you do not want graded; I will grade the first questions with something written on the page. **The final exam is cumulative because the material in this course is cumulative.** A "cumulative learning objectives" file will be posted.

*Missed Exams:* If you have a planned absence on an exam date, see me ASAP to schedule it. If you unexpectedly miss an exam, it will count as your lowest scoring midterm and the points that would have gone to the lowest scoring midterm will be rolled into the final exam. No need for doctor's notes or other documentation.

*Extra Credit:* You can receive one EC point for completing the "pre-test" at the beginning of the semester and "post test" at the end of the semester (**see schedule for due dates**). You can also earn 1pt EC for completing a mid-semester feedback survey (if available). At instructor's discretion, there may be extra credit awarded to individuals with particularly meaningful contribution to in class and / or online discussions.

## PSY330 POLICIES

This course is subject to GVSU policies <http://www.gvsu.edu/coursepolicies/>

*Email Policy:* Before emailing, check the syllabus, schedule, and BB announcements for answers. Content-based questions must be posted to the discussion board so everyone can benefit from the answers; please let me know if your DB question has not been answered to your satisfaction. Remain professional in email communication; include the class and section #, use full sentences, and sign your full name. **I may address inquiries in class or on BB rather than responding to emails.** I typically answer emails within one business day. Important class information and announcements are posted to blackboard. Please monitor BB and check your email regularly to ensure that you do not miss anything. **If you have any problems with BB email BB admin and CC me ASAP.**

*Office Hours:* Please visit me in office hours, that's why I'm here! Working with students is why I chose this profession. Beyond course content, I can help students develop skills for studying, time-management, and test-taking. If you are unavailable during office hours, email to schedule an appointment.

*Course Schedule:* Details are subject to change; pay close attention to announcements and the calendar tool on BB. Pro tip: set alerts on your phone for deadlines! Late assignments are not accepted.

*Canceled Classes:* Unless the instructor emails otherwise, if classes are canceled at the university, any exam will take place at the next class meeting.

*Students with Disabilities:* If you have special needs because of learning, physical or other disability, please contact 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 situation, please make me aware so I can develop a plan to assist you. Please note that students taking exams with DSR must make arrangements approximately two weeks prior to each exam! Please be sure to complete all required paperwork well in advance of the deadline. <http://www.gvsu.edu/dsr/>

*Academic Support Centre:* Students interested in additional support for time management, writing, study or examination skills should contact the Advising Resource Centre (200 STU). You are also encouraged to contact Psi Chi to ask for a tutor who has experience with this course! I've recommended several excellent students as tutors for this course and am confident that working with any of these tutors would be beneficial.

*Commitment to Inclusion & Equity and University Anti-Harassment / Non-Discrimination:* Every student must demonstrate respect for each other. I am committed to eliminating discrimination, harassment, bullying, or victimization of any kind. Any student participating in, or condoning harassment or discrimination will be asked to leave. As adopted by the Board of Trustees, in Administrative Manual Chapter 1, Grand Valley State University is committed to inclusion and equity, and strives to establish a climate that welcomes and affirms the contributions of all students and employees. The University is guided by values for inclusiveness and community,

which are integral to our mission to educate students to shape their lives, their professions, and their societies, and to enrich the community through excellent teaching, active scholarship, and public service. The University strives to provide all members of its community an inclusive environment and equitable opportunities for success. <http://www.gvsu.edu/affirmativeactionstatement.htm> <http://www.gvsu.edu/titleix/>

*Bias Incidents or Harassment:* It's important to report all bias incidents--even those intended as jokes. Go to [https://gvsu-advocate.symplicity.com/public\\_report/index.php](https://gvsu-advocate.symplicity.com/public_report/index.php) to report bias incidents or for more information. You can also contact the Dean of Students office at 616-331-3585.

## HOW TO BE SUCCESSFUL

*Important Note: GVSU specifies that for a 3 credit-hour class, students should anticipate spending 9 hours of time outside of class devoted to that topic.*

- 1- BEFORE CLASS: Success in Psy330 requires a substantial amount of work on your own (or with your group) to familiarize yourself with the topic before it's covered in class. This partially "flipped" model allows us to devote in-class time to filling in the gaps of understanding at a deeper level.
  - a. DIRECTED READING:
    - i. Use the PPT slides as your reading guide BEFORE class
    - ii. Take notes from Carlson / NSO / Khan academy around the figures in the PPT
    - iii. Be sure to define all vocab terms. (now is a good time to start making flash cards)
  - b. WATCH VIDEOS
    - i. Many topics now have Flandreau light board or narrated PPT videos.
    - ii. Khan academy videos also help
  - c. TEST YOURSELF
    - i. Once you've read the material and taken notes on the PPT, take the online quiz.
    - ii. Based on your score, you may need to study a bit more before you attempt the quiz again.
- 2- DURING CLASS: Come to class and participate as much as possible
  - a. TAKE NOTES:
    - i. Studies have consistently shown that actively taking notes in class improves learning
    - ii. Make sure you have plenty of paper. I write on the board a lot. Some students find it helpful to have different colored pens or pencils for note-taking.
    - iii. If you miss class, get notes from a friend ASAP
  - b. STAY PRESENT:
    - i. PUT AWAY THE CELL PHONE. Studies show that even having a phone visible can be a distraction.
    - ii. Participate (in class AND online): Peer-Instruction is an evidence-based form of instruction shown to improve comprehension. It is get-out-of-it-what-you-put-in!
  - c. ENGAGE: really work to answer the peer instruction questions on your own in your head before discussing with your group. Each time you generate an answer on your own, you strengthen those neural connections.
- 3- AFTER CLASS:
  - a. COMPREHENSION:
    - i. Go through your notes after class, write down questions / points of confusion.
    - ii. Post your questions to the DB and / or ask your peers / visit office hours.
  - b. MEMORIZATION:
    - i. Make flash cards for vocabulary words: Psychology can seem like a foreign language, the only way to be successful is to learn to speak it!
    - ii. Goal = able to explain each learning objective to a friend (or relative or pet) without referencing your notes.
  - c. Visit me: I'd love to see as many of you as possible as often as possible



## ADDITIONAL RESOURCES

This course is the “biological” underpinnings of psychology. It is required for behavioral neuroscience majors and an elective for psychology majors. Each semester I often have junior and senior psychology majors who note “I haven’t seen the inside of a biology textbook since...” If you fit into that category, go to [www.khanacademy.org](http://www.khanacademy.org) and search for the following videos (please note, you will not need to know the details of these videos to be successful in this class, rather, these videos may help provide background info to make this class feel a bit less like a foreign language)

- Biology Overview
- Scale of cells
- Overview of cell signaling
- DNA
- DNA replication and RNA transcription and translation
- Cell membrane overview

## TEST TAKING STRATEGIES

- 1- Study! Knowing the material will go a long way towards boosting confidence and confidence is a great weapon against exam anxiety.
- 2- Get in the zone- practice your mindfulness training before beginning
- 3- Follow instructions: Most exams have some choice; be sure you answer all the required questions and clearly indicate which question(s) you do NOT want graded
- 4- For Multiple Choice- Answer easy questions first, medium questions second, and “hard” questions last. This strategy serves 2 purposes:
  - a. First, if you run out of time it’s best to leave blank questions you didn’t know anyway.
  - b. Second, it’s really important for your confidence and, again, confidence is a great weapon against anxiety.
- 5- Answer multiple-choice questions on the exam itself; fill in the bubble sheet at the end. This strategy also serves a few purposes
  - a. If you skip questions your first time through you don’t want to mess up the bubble-sheet
  - b. Make sure you review all your answers before submitting
  - c. If there’s a problem with your scantron I have your answers on another form.
- 6- **Read the full question--- twice—and answer thoroughly**
  - a. Answer the question, the whole question, and nothing but the question
  - b. Adding info unrelated to the question NEVER a good idea
- 7- Be legible- if I can’t read it, I can’t grade it!
- 8- Read this info on how to write answers to essay questions <http://www.oxcoll.com/tew/exam-writing/how-to-write-in-an-exam.html> Here’s a snippet:

“So you have carefully read the question now the next big task is to actually answer it. Sounds obvious? You would think so wouldn’t you... However, even at degree level one of the most common mistakes is to not answer the question. It is also a mistake that can cost a lot of marks. Let’s consider an example from physics

- **State and explain using an example Newton’s third law. [8 marks]**

If you think you know this and proudly write down **“to every action there is an equal and opposite reaction”** you will be lucky to get 2 out of the 8 marks. Your answer fails to explain using an example – which is probably worth half of the marks. Your statement of the law is the GCSE version and excludes two important features (the action and reaction have to be the same type of force and acting on different bodies) and the “opposite” bit should really be “opposite and along the same line of action”. The example bit really requires a diagram.”

## PSY 330 SCHEDULE – Part 1

	Required Reading	Day	Date	Due on BB 11:59pm	Videos	Topic / Activity ( <i>Italics = Attendance Required</i> )
<b>1</b>	Carlson Chpt 2; NSO Section 1 Intro, Chpt 8	M	1.7.19			
		<b>Tu</b>	<b>1.8.19</b>	<b>Team Preference Survey</b>		<b>Intro, Cell Neuro</b>
		W	1.9.19	Pre-test (EC)		
		<b>Th</b>	<b>1.10.19</b>			<b><i>Resting Vm (Teams)</i></b>
		F	1.11.19	<b>DB1; Syllabus Quiz</b>		
<b>2</b>	Carlson Chpt 2; NSO Section 1 Intro, Chpt 2, 3, 5	M	1/14/19	Q1- Cell Neuro, Vm	Action Potential	
		<b>Tu</b>	<b>1/15/19</b>			<b><i>Action Potential (Start H1)</i></b>
		W	1/16/19	Q2- Synaptic Transmission	Synapses	
		<b>Th</b>	<b>1/17/19</b>			<b>NT release</b>
		F	1/18/19			
<b>3</b>	Carlson Chpt 2; NSO Section 1 Intro, Chpt 3, 5, 6	M	1/21/19			
		<b>Tu</b>	<b>1/22/19</b>			<b>Post Synaptic Potentials</b>
		W	1/23/19	Q3- Reflexes, Circuits	Circuit, Reflex	
		<b>Th</b>	<b>1/24/19</b>			<b><i>Reflexes, Circuits (Finish H1)</i></b>
		F	1/25/19	<b>DB2; Homework 1</b>		
		<b>Tu</b>	<b>1/29/19</b>			<b>Catch up / Review</b>
		<b>Th</b>	<b>1/31/19</b>			<b>EXAM 1</b>

## PSY 330 SCHEDULE – Part 2

	Required Reading	Day	Date	Due on BB 11:59pm	Videos	Topic / Activity ( <i>Italics = Attendance Required</i> )
5	Carlson Chpt 3, 4; NSO Section 2 Chpt 1,3; NSO Section 1 Chpt 11,13	M	2/4/19	Q4- Neuroanatomy	Neuroanatomy	
		Tu	2/5/19	<i>Neuroanatomy (Start H2)</i>		
		W	2/6/19	Q5- Psychopharm	Psychopharm	
		Th	2/7/19	Psychopharm, Intro to NTs, Glutamate		
		F	2/8/19			
6	Carlson Chpt 4, 9; NSO Section 1 Chpt 11, 12	M	2/11/19	Q6- NTs	Neurotransmitter	
		Tu	2/12/19	GABA, ACh		
		W	2/13/19			
		Th	2/14/19	Monoamines		
		F	2/15/19			
7	Carlson Chpt 13; NSO Section 1, Chpt 7; Section 4, Chpt 7	M	2/18/19	Q7- Plasticity	Plasticity	
		Tu	2/19/19	<i>Synaptic Plasticity (H2)</i>		
		W	2/20/19	Q8- L&M		
		Th	2/21/19	Learning & Memory		
		F	2/22/19	DB3; HOMEWORK 2		
8		M	2/25/19			
		Tu	2/26/19	Catch up / Review		
		W	2/27/19			
		Th	2/28/19	EXAM 2		
		F	3/1/19			
9		M	3/4/19	SPRING BREAK		
		F	3/8/19			



## PSY 330 SCHEDULE – Part 3

	Required Reading	Day	Date	Due on BB 11:59pm	Videos	Topic / Activity ( <i>Italics = Attendance Required</i> )
<b>10</b>	Carlson Chpt 6; NSO Section 2, Chpt 14, 15	M	3/11/19	Q9- Vision	Retina	
		<b>Tu</b>	<b>3/12/19</b>			<b><i>Retina (Start H3)</i></b>
		W	3/13/19		Vision in Brain	
		<b>Th</b>	<b>3/14/19</b>			<b>Vision</b>
		F	3/15/19	H3 Article Approval		
<b>11</b>	Carlson Chpt 7; NSO Section 2 Chpt 12, 13	M	3/18/19	Q10- Auditory	Auditory	
		<b>Tu</b>	<b>3/19/19</b>			<b><i>Auditory (Activity)</i></b>
	Carlson Chpt 7; NSO Section 2, Chpt 2,4,5,6,7,8	W	3/20/19	Q11- Somatosensory	Somatosensory	
		<b>Th</b>	<b>3/21/19</b>			<b>Somatosense &amp; Pain</b>
		F	3/22/19	DB4; Article Resubmit		
<b>12</b>		M	3/25/19			
		<b>Tu</b>	<b>3/26/19</b>			<b>Catch up / Review</b>
		W	3/27/19			
		<b>Th</b>	<b>3/28/19</b>			<b>EXAM 3</b>
		F	3/29/19			

## PSY 330 SCHEDULE – Part 4

	Required Reading	Day	Date	Due on BB 11:59pm	Videos	Topic / Activity ( <i>Italics = Attendance Required</i> )
13	Carlson Chpt 14; NSO Section 4, Chpt 8	M	4/1/19	Q12- Aphasia	Aphasia	
		Tu	4/2/19			<b><i>Aphasia (H3)</i></b>
	Carlson Chpt 15; NSO Section 4; Chpt 1, 9	W	4/3/19	Q13- Degenerative	Basal Ganglia	
		Th	4/4/19			<b>PD, AD</b>
		F	4/5/19			
14	Carlson Chpt 15; NSO Section 4; Chpt 1, 9	M	4/8/19	H3 Written Due		
		Tu	4/9/19			<b>AD, Schizophrenia</b>
	Carlson Chpt 16; NSO Section 4 Chpt 1, 9	W	4/10/19	Q14- Psychiatric H3 PPT due if you want comments		
		Th	4/11/19			<b><i>Schizophrenia; Depression</i></b>
		F	4/12/19	DB5 Deadline		
15		M	4/15/19	Upload Final PPT		
		Tu	4/16/19			<b><i>Presentations</i></b>
		W	4/17/19			
		Th	4/18/19			<b>Catch up / Review</b>
		F	4/19/19	LIFT, Post Test		
17	330_05 (8:30)	M	4/22/18			10am FINAL
		Tu	4/23/18			
	330_03 (10am)	W	4/24/18			8am FINAL
		Th	4/25/18			
		F	4/26/18			