

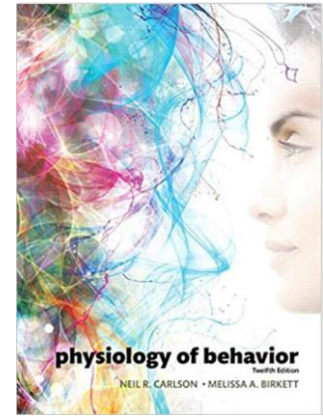
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2129 Au Sable Hall (ASH)
Office Hours: 10am – 12pm Mondays & By Appointment

Final Exam: PSY 330_05 Tuesday 4/21/20 10am
PSY 330_06 Tuesday 4/21/20 12pm

Required Reading:

1. Carlson Physiology of Behavior 12th Edition* (ISBN-13: 978-0134080918; ISBN-10: 0134080912)
2. Neuroscience Online <https://nba.uth.tmc.edu/neuroscience/>
3. Khan Academy www.khanacademy.org

* There should be a copy of this text on reserve at the library. I recommend having a personal copy, but either the physical OR digital text is sufficient. There are also typically options to rent the textbook. FYI, I use the same text for PSY435 so it may be worth purchasing if you're going to be in 435.



Course Description: 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 (*aka biological basis*) of cognition, memory, motivation, emotion, attention, and sensory processes.

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, you will gain / improve some EMPLOYABLE skills.

1. **Time management:** The course is structured to familiarize yourself with the material BEFORE class and then work through the challenge of UNDERSTANDING the material during class. After class you will consolidate this understanding. This process requires time-management skills.
2. **Reading for Content:** 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 for ANY career.
3. **Communication:** Each individual is expected to communicate verbally in class and through written communication in online discussion boards and essay exams.
4. **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.

About the instructor: Dr. Flandreau has a BA in biology from Lawrence University in Wisconsin and a PhD in neuroscience from Emory University in Atlanta. She worked as a postdoctoral fellow at the Salk Institute and UCSD prior to joining the Psychology Department at GVSU in January of 2015. Her complete list of published works can be found here:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/16yhpycv5JeQW/bibliography/49569051/public/?sort=date&direction=ascending>

PSY330 GRADING

Category	Item	Number	Points (ea)	Points (total)	Percentage	Notes
Quizzes	Syllabus Quiz	1	5	5	1.25	The syllabus is like a contract, it's essential that you understand what to expect from the instructor and your fellow students, and what the instructor expects from students.
	Neuroanatomy Quiz	1	20	20	5.00	Quiz based on online 'light board' lectures as well as Carlson chapter 3 neuroanatomical directional terms.
	In-Class Reading Quizzes	15	5	75	18.75	In-class quizzes at the start of each content-based class session (<i>17 reading quizzes currently on the schedule</i>). These quizzes help ensure that everyone is prepared to do some real actual learning during our time together.
Contribution	In-Class Contribution to Small and Large-Group Discussions	15	2	30	7.50	Students arrive prepared for class (having watched videos and read text(s) and are actively engaged) This course uses active learning-strategies. Evidence shows that these strategies improve students' understanding and retention of complex material. Students will be most successful if they are ready to ask (and answer!) the tough questions together in class. (<i>18 attendance required days - plus 3 midterm days - currently on the schedule of 28 total class periods during the semester</i>).
Exams	Midterm	2	75	150	37.50	3 total midterms
	<i>Lowest Midterm</i>	1	20	20	5.00	
	Final	1	100	100	25.00	Cumulative
TOTALs				400	100	

Grade = Earned Points / Total Points x 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.
- *Reading Quizzes:* Most class periods (see schedule) will begin with a 5-question, 10-minute content quiz on the required videos / reading for that day's topic. These quizzes are designed to ensure that all students arrive familiar with the material and thus prepared to engage more deeply during our brief time together.

Contribution: Due to the “flipped” nature of the class, attendance is REQUIRED on most days (see calendar). There are 28 total class days during the semester; 4 of these are exam days (3 midterms plus one 20-point quiz). In addition to the exam days, attendance and contribution are required on specific dates (see calendar). Grading is based on the following:

- Student watched videos and reviewed PPT slides before class (*by 11:59pm the day before class*)
- Active, consistent, meaningful participation to whole-class and small group activities
- Enthusiastic engagement. A successful active-learning classroom requires students to “buy in” to the process, meaning that students are motivated to understand the material, ask (and answer! Questions) and are willing to push through to see the light at the end of a difficult-topic-tunnel.

Discussion Board: Please ‘subscribe’ to the DB. **All content and clarification questions must be posted to the DB;** other students may answer your question (peer instruction is an evidence-based pedagogical practice!!!) and also benefit from the answer to your question! I read DB threads to address misunderstandings, guide you to the best resource, and identify topics that require more class time. I may answer a question on the DB rather than email. Students who make full use of the DB tend to perform better on exams than students who do not use the DB.

Exams

- *Exams:* Topic-specific learning objectives and practice questions 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.
- *Lowest Midterm:* Your lowest-scoring mid-term will be re-calculated to account for a smaller portion of the total grade ($\text{Current Grade} * \text{new total score} / \text{original total score} = \text{new score out of fewer points}$). This policy is possible because each mid-term is simply a stepping-stone on the way to the cumulative final exam. If you don't understand a topic at the time of the midterm, you can still master that concept before the final exam.
- *Missed Exams:* If you have a planned absence on an exam date, see me ASAP to schedule to take the exam in advance. If you unexpectedly miss a midterm exam for any reason, 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.
- *Final Exam:* **The final exam is cumulative because the material in this course is cumulative.** If you have 3 or more exams scheduled on the same day, you can take your exam with the other section or see me to schedule an out-of-class time slot.

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/>

The No-Excuses, Excused Absence Policy:

- THE POLICY FOR PLANNED ABSENCES
 - There are 28 total class periods in the semester. Attendance is required on 17 of them (plus neuroanatomy quiz day and 3 midterm exam days). It is your responsibility to determine if your other obligations (e.g. religious, sportsball etc.) overlap with attendance-required days.
 - You **MUST** take quizzes / exams in advance of a known absence. It is your responsibility to schedule this with the instructor.
 - To recuperate the participation points for the day(s) missed due to a known-in-advance excused absence, students **MUST** post at least one (previously unasked) question to the DB for that ‘part’ **AND correctly** answer at least one question.

- THE POLICY FOR UNPLANNED ABSENCES:
 - Students do not need to inform the instructor if they must miss class for unplanned reasons.
 - There are 28 total class periods in the semester. Attendance is required on 17 of them (plus neuroanatomy day and 3 midterm exam days). Students can miss 2 of the 17 days (and the quizzes associated with them) with no impact on the grade.
 - Students can miss up to one midterm exam with no impact on the grade (see exam policy above).
 - Missing more than 2 quizzes / attendance-required days, or more than one midterm **WILL** impact the grade.*

- WHY THIS POLICY:
 - **IMHO**, students should **NOT** be required to disclose personal information to an instructor unless they choose to do so on their own.
 - The USA lacks universal health care. Until and unless that changes, I feel it is unethical to require a doctor’s note for an approved absence.
 - When instructors require excuses, a small minority of students feel compelled to invent them.
 - Some students are more likely to ask for accommodations than others, leading to an inequitable distribution of accommodations across demographic categories.
 - The GVSU attendance policy leaves a lot to instructor discretion. This instructor does not wish to be in the position of evaluating which reasons count as excused.

- What this means for students
 - Feel free to keep your private life private.
 - Take care not to “use up” your allotted flexibility. You never know when a flat tire or stomach bug may strike and it would be unfortunate to not have any remaining absences available.

- *What if I don’t miss any days or quizzes?*
 - Lowest quiz score(s) will be dropped
 - Full, meaningful contribution on all attendance-required days may lead to EC points at instructors’ discretion

Blackboard: We use BB heavily in this class for announcements and discussions. If BB is causing problems, you must contact BB admin (and CC the instructor).

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>

Email Policy: Please remain professional in email communication; include the class and section #, use full sentences, and sign your full name. I typically answer emails within one business day but may address inquiries in class or on BB rather than responding to individual emails. **Content-based questions and non-personal clarification questions must be posted to the DB;** please let me know if your DB question has not been answered to your satisfaction.

Cell Phone Policy: Studies show that even having a cell phone visible is a distraction! I typically have my phone accessible but not visible so that I can be available in case of an urgent call about a family member. I ask that students also keep their phones put away. If there is an urgent matter, please step into the hallway to text / call. <https://time.com/3616383/cell-phone-distraction/>

Office Hours: Please visit me in office hours, that's why I'm here! 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! There are no make-ups.

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: 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. 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 to report bias incidents or for more information. You can also contact the Dean of Students office at 616-331-3585.

Additional Support: There are at least two tutors available for PSY 330. Please contact the tutoring center. This course is the "biological" underpinnings of psychology. It is required for behavioral neuroscience majors and an elective for psychology majors. Each semester a handful of students report "I haven't seen the inside of a biology textbook since..." If you fit into that category, go to www.khanacademy.org and search for the following videos: Biology Overview, Scale of cells, Overview of cell signaling, DNA, DNA replication and RNA transcription and translation, Cell membrane overview.

HOW TO BE SUCCESSFUL

Important Note: GVSU specifies that for a 3 credit-hour class, students should anticipate spending 6-9 hours of time outside of class devoted to that topic.

- 1- BEFORE CLASS: Success in Psy330 requires that you 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. BEFORE CLASS, read relevant portions of textbook (see "READING GUIDE" and "PPT" for that topic)
 - ii. TAKE NOTES on your readings to ensure that you are fully engaged.
 - iii. DEFINE all vocab terms. (now is a good time to start making flash cards)
 - iv. <https://www.cornellcollege.edu/academic-support-and-advising/academic-support/study-tips/reading-textbooks.shtml>
 - b. WATCH VIDEOS: Many topics now have Flandreau light board or narrated PPT videos to supplement the reading. Each topic also has recommended Khan academy videos (see learning objectives files for a list of titles!)
 - i. You must watch the videos before 11:59pm to get 'credit' for preparing for class.
- 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, particularly taking notes BY HAND
 - 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
 - iv. <https://learningcenter.unc.edu/tips-and-tools/effective-note-taking-in-class/>
 - b. STAY PRESENT:
 - i. Studies show that even having a phone visible can be a distraction.
<https://www.psypost.org/2018/05/just-cell-phone-possession-can-impair-learning-study-suggests-51228>
 - 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, ask your peers, AND 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. Your goal is to be 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. I am most helpful if you arrive with specific questions to address.

TEST TAKING STRATEGIES

1- Multiple Choice Questions:

- a. Answer easy questions first, medium questions second, and “hard” questions last. This strategy serves 2 purposes:
 - i. First, if you run out of time it's best to leave blank questions you didn't know anyway.
 - ii. Second, it's really important for your confidence and, again, confidence is a great weapon against anxiety.
- b. Answer multiple-choice questions on the exam itself; fill in the bubble sheet at the end. This strategy also serves a few purposes
 - i. If you skip questions your first time through you don't want to mess up the bubble-sheet
 - ii. Make sure you review all your answers before submitting
 - iii. If there's a problem with your scantron I have your answers on another form.

2- Short Answer Questions:

- a. Answer the question, the whole question, and nothing but the question
 - i. *Answer the question:* Read the question and make sure you understand exactly what it's asking. Many of the topics we cover have overlapping themes, make sure you understand exactly what this particular question is asking.
 - ii. *Answer the whole question:* Look for the ‘start’ and ‘stop’ point of the question. Most of the topics we cover are related to each other and can be broken apart in many different ways. Make sure you include the part that the question is asking about
 - iii. *Answer nothing but the question:* Related to above, STOP at the stop point of the question. Adding info unrelated to the question NEVER a good idea
- b. Be legible- if I can't read it, I can't grade it!
- c. 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.”

SCHEDULE

Please note that, while I will do everything in my power to stay on track, the schedule may change with unforeseen circumstances (e.g. snowpocalypse). Students are responsible for making themselves aware of in-class and online announcements regarding any changes to the schedule. If a schedule change impacts your ability to attend required classes, please review the attendance policy and meet with the instructor to resolve the conflict(s).

PART 1

	Reading	Day	Date	Do / Due online (By 11:59pm)	In-Class Quiz (Attendance Required)	Topic / Activity
1	Carlson Chpt 2; NSO Section 1 Intro, Chpt 8	M	1/6/20			
		Tu	1/7/20			Intro, Cell Neuro
		W	1/8/20			
		Th	1/9/20			Resting Vm
		F	1/10/20	Syllabus Quiz; Pre-test (EC)		
2	Carlson Chpt 2; NSO Section 1 Intro, Chpt 2, 3, 5	M	1/13/20	AP Videos		
		Tu	1/14/20		Q1- Cell Neuro, Vm, AP	Action Potential, Myelin
		W	1/15/20	Synaptic Transmission Videos		
		Th	1/16/20		Q2- Synaptic Transmission Part 1	NT release
		F	1/17/20			
3	Carlson Chpt 2; NSO Section 1 Intro, Chpt 3, 5, 6	M	1/20/20			
		Tu	1/21/20		Q3- Synaptic Transmission Part 2	Post Synaptic Potentials
		W	1/22/20	Circuit, Reflex Video		
		Th	1/23/20		Q4- Reflexes and Mini Circuits	Reflexes, Circuits
		F	1/24/20	Discussion Board 1		
4		M	1/27/20	Review session 1 video		
		Tu	1/28/20			Catch up / Review
		W	1/29/20			
		Th	1/30/20		EXAM 1	
		F	1/31/20			

PART 2

	Reading	Day	Date	Do / Due online (By 11:59pm)	In-Class Quiz (Attendance Required)	Topic / Activity
5	Carlson Chpt 3, 4; NSO Section 2 Chpt 1,3; NSO Section 1 Chpt 11,13	M	2/3/20	Neuroanatomy Videos		
		Tu	2/4/20		Neuroanatomy Test (Multiple choice)	Neuroanatomy
		W	2/5/20	Psychopharm Video		
		Th	2/6/20		Q5- Psychopharm	Psychopharm, Intro to NTs
		F	2/7/20			
6	Carlson Chpt 4, 9; NSO Section 1 Chpt 11, 12	M	2/10/20	NT Videos		
		Tu	2/11/20		Q6- Amino Acid NTs, ACh	Glutamate, GABA, ACh
		W	2/12/20			
		Th	2/13/20		Q7- Monoamines	Monoamines
		F	2/14/20			
7	Carlson Chpt 13; NSO Section 1, Chpt 7; Section 4, Chpt 7	M	2/17/20	Plasticity Videos		
		Tu	2/18/20		Q8- Plasticity	Synaptic Plasticity
		W	2/19/20			
		Th	2/20/20		Q9- L&M	Learning & Memory
					Discussion Board 2; Feedback survey	
8		M	2/24/20			
		Tu	2/25/20			Catch up / Review
		W	2/26/20			
		Th	2/27/20		EXAM 2	
		F	2/28/20			
9		M	3/2/20		SPRING BREAK	
		F	3/8/20			

PART 3

	Reading	Day	Date	Do / Due online (By 11:59pm)	In-Class Quiz (Attendance Required)	Topic / Activity
10	Carlson Chpt 6; NSO Section 2, Chpt 14, 15	M	3/9/20			
		Tu	3/10/20			Notes on E2 and Mid Sem Survey
		W	3/11/20	Retina Video		
		Th	3/12/20		Q10- Retina	Retina
11	Carlson Chpt 7; NSO Section 2 Chpt 12, 13	M	3/16/20	Vision in the Brain Video		
		Tu	3/17/20		Q11- Vision	Vision
	Carlson Chpt 7; NSO Section 2, Chpt 2,4,5,6,7,8	W	3/18/20	Auditory Videos		
		Th	3/19/20		Q12- Auditory	Auditory
12		M	43913	Somatosensory videos		
		Tu	3/24/20		Q13- Somatosensory	Somatosense & Pain
		W	3/25/20			
		Th	3/26/20			Catch up / Review
13	Carlson Chpt 14; NSO Section 4, Chpt 8	M	3/30/20			
		Tu	3/31/20		EXAM 3	

PART 4

	Reading	Day	Date	Do / Due online (By 11:59pm)	In-Class Quiz (Attendance Required)	Topic / Activity
13	Carlson Chpt 15; NSO Section 4; Chpt 1, 9	W	4/1/20	Aphasia Videos		
		Th	4/2/20		Q14- Aphasia	Aphasia
		F	4/3/20			
14	Carlson Chpt 15; NSO Section 4; Chpt 1, 9	M	4/6/20	Basal Ganglia Videos		
		Tu	4/7/20		Q15- PD, HD	PD and HD
	Carlson Chpt 16; NSO Section 4 Chpt 1, 9	W	4/8/20			
		Th	4/9/20		Q16- Schizophrenia	Schizophrenia
15	Carlson Chpt 16; NSO Section 4 Chpt 1, 9	M	4/13/20			
		Tu	4/14/20		Q17- Depression	Depression
		W	4/15/20			
		Th	4/16/20			Catch up / Review
17		F	4/17/20	Discussion Board 4 LIFT, Post Test (EC)		
		M	4/20/20			
		Tu	4/21/20	PSY 330_05 (11:30am Class) PSY330_06 (1pm class)	FINAL EXAM 10am - 11:50am FINAL EXAM 12pm - 1:50pm	