

PSB 3340 Behavioral Neuroscience Spring 2025

Section #16F9; Class #18295

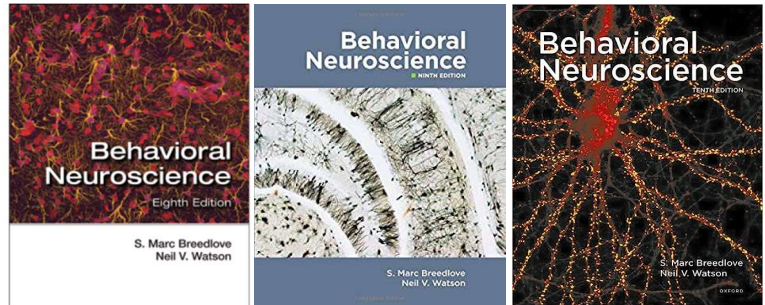
class time: Tuesday period 3, 9:35 – 10:25 a.m.

Thursday period 3 - 4, 9:35 - 11:30 a.m.

room: James W. Norman Hall room, room1020

3 credits

In this course, we will use the most complex object in the known universe, to study the most complex object in the known universe. You are invited to come along and explore the human brain. I promise, it will be an exhilarating adventure.



Professor: Darragh P. Devine, Ph.D.

dpdevine@ufl.edu

phone: 352-273-2174

office hours: Wednesday 1:55 - 2:45 p.m. and Friday 11:45 a.m. - 12:35 p.m. (or by appointment)

Wednesday office hours are online at: Meeting ID: 986 3871 5144, Passcode: PSB3340

Friday office hours are in-person in the Psychology Building, room PSY 337

Teaching Assistant: Alexandra Sanchez, sanchezalexandra@ufl.edu

office hours: Monday and Tuesday 1:00 - 2:00 p.m. (or by appointment), Psych Building room 311-G

Required Text: *Behavioral Neuroscience*, 8th, 9th, or 10th ed. (2017, 2020, or 2023), by S. M. Breedlove and N. V. Watson (ISBN # 978-1605356426, ISBN# 978-1605359076, or ISBN# 978-0197616857)

COURSE COMMUNICATIONS: If students have questions about the website, general course content, or other online materials, they should consult the syllabus and the supporting materials in the START HERE module on the Canvas website.

Dr. Devine and the Teaching Assistant will be available to answer questions during office hours, or through e-mail. Any e-mailed questions will be answered within approximately 24-48 hours (questions on the weekend may wait until the beginning of the following week).

BIOLOGICAL SCIENCES GENERAL EDUCATION SUBJECT AREA OBJECTIVES: This course confers General Education credit for Biological Sciences (B). Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically-testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments. More information on General Education Objectives and Outcomes can be found at <https://catalog.ufl.edu/UGRD/academic-programs/general-education/#objectivesandoutcomestext>

COURSE DESCRIPTION: The purpose of this course is to provide a broad background in the neural basis of behaviour. What is the brain made of? How is it put together? What do neurons do? How do neurons communicate? How are behaviours regulated? How can the brain malfunction? This is an in-depth introductory course, which is designed for students who have a real interest in learning about the brain and behavior. This includes students with interests in Psychology, Biology and other bio-medical sciences.

In this course, students will:

1. discover the cells and structures that make up the nervous system, learn the manner in which these elements interact with other body systems, and identify the roles they play in information processing in the brain.

2. develop knowledge about the mechanisms by which neurons communicate, and the changes that occur in neuronal activities during learning
3. learn the manner in which drugs, hormones, and other signals modify the functions of neurons
4. learn the fundamental neurobiological principles of sensory processing, emotional regulation, and motor function
5. learn the neurobiological mechanisms that drive normal motivations to eat, drink, sleep, and reproduce, as well as abnormal motivation to abuse drugs

Lectures and reading material will emphasize the cellular biology, anatomy, physiology, and development of the nervous system, and the neurobiology of sensation and motor function.

This course is required for students in the Behavioral and Cognitive Neuroscience track. It is also the pre-requisite for all 4000-level PSB courses (e.g. PSB4240, PSB4342, PSB4434, PSB4810, PSB4934). Students cannot take both PSB 3002 and PSB 3340.

SUBJECT AREA STUDENT LEARNING OUTCOMES:

Content: Students will identify, describe, and explain the basic concepts, theories and terminology of natural science and the scientific method; the major scientific discoveries and the impacts on society and the environment; and the relevant processes that govern biological and physical systems.

Critical Thinking: Students will formulate empirically-testable hypotheses derived from the study of physical processes or living things; apply logical reasoning skills effectively through scientific criticism and argument; and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes.

Communication: Students will communicate scientific knowledge, thoughts, and reasoning clearly and effectively.

PREREQUISITE KNOWLEDGE and SKILLS: Students who register for this course are required to have an introductory course in Biology (BSC2010 or equivalent). Fundamental knowledge in Introductory Psychology (e.g. PSY2012) is helpful, but not required. The course is self-contained - meaning that everything you need is contained within the course materials. Accordingly, this course is appropriate for students who have a broad interest in Psychology and the biological basis of behaviour.

ATTENDANCE POLICY: Students are expected to attend all classes, and frankly, absence from classes will cause a student to miss information that will be tested on the quizzes and exams. Requirements for class attendance and make-up exams, assignments, and other work in the course are consistent with university policies. [See UF Academic Regulations and Policies for more information regarding the University Attendance Policies.](#)

GRADING: This course will have 10 short online quizzes (one per chapter), a research requirement, and 3 in-person exams, and one final exam.

Each of the online quizzes will have 10 multiple-choice (MC) questions and will cover only the material in the chapter for which the quiz is assigned. The quizzes will count for a total of 36% of the final grade (4% per quiz, counting the best 9 quizzes; see quiz/exam policy, below).

The research assignment will count for 4% of your final grade (see "Research Participation" below, and detailed instructions posted in the "Start Here" module on the Canvas website).

Each in-person exam will have 40 MC questions. Each of these exams will cover only the text and lecture material from the chapters that have most recently been discussed in class (i.e. exam 1 will cover material from the beginning of the course up to the time of the exam; exam 2 will cover material assigned after exam 1; and exam 3 will cover material assigned after exam 2). The exams will count for a total of 60% of the final grade (20% per exam).

The final exam will have 40 MC questions, will be comprehensive, and can replace one missed exam or one exam on which you did poorly.

QUIZ and EXAM POLICY: All quizzes are online, and can be found linked in the Canvas course website. Each online quiz is available while the material is being covered in class, until its due date and time. Then, it will disappear, along with the opportunity to get points for it. Each exam will only be available in class on the dates specified in this syllabus. The final exam will be comprehensive.

If you complete all quizzes, your best 9 out of 10 quizzes will count toward your final grade. If you miss a quiz, your best remaining 9 quizzes will count, and there is no additional penalty. If you miss any additional quizzes, you will be given a score of 0 (zero) on the additional missed quizzes, and those grades will be included in the calculation of your final grade.

The quizzes are not proctored, and you can use textbooks or other resources to find the answers to the questions, but each quiz is limited to 15 minutes. It will close at the end of 15 minutes.

It is advised that students complete all quizzes early, in order to avoid any potential problems with technology. If you encounter technical difficulty, you must contact the UF help desk (note that the phone and e-mail support is available after hours 24 hrs/day, except holidays – for further information see <http://helpdesk.ufl.edu/hours-of-operations/>). Information for getting technical help is provided under “getting help”, below.

The three exams and the final exam are in-person, in our regular classroom. You will not be allowed to use the textbook, notes, or any additional materials when you take the exams or the final exam. All three examinations must be completed, and the grades for all three exams will be included in the calculation of your final grade. If you take all the three regular exams and are satisfied with your grade, you may skip the final exam. If you miss an exam, or if you do poorly on an exam, you can drop that exam and take the final exam to replace it. In this case the better exam score (regular exam or replacement) will count.

RESEARCH PARTICIPATION: The same research participation requirement as in the General Psychology course has been extended to all 3000-level Psychology courses. You will have the option to participate in research experiments through the SONA platform (Option 1) or to complete critical analysis papers (Option 2). Please see the Research Requirements link in the “Start here” module of the course website for more information, including details of procedures and critical deadlines for options 1 and 2.

The grading scheme is as follows:

Score (%)	Grade	Grade Points	Score (%)	Grade	Grade Points
93-100	A	4.00	73-76	C	2.00
90-92	A-	3.67	70-72	C-	1.67
87-89	B+	3.33	67-69	D+	1.33
83-86	B	3.00	63-66	D	1.00
80-82	B-	2.67	60-62	D-	0.67
77-79	C+	2.33	<60	E	0.00

A minimum grade of C is required for General Education (Biological Science) credit.

Additional information on current UF policies for assigning grade points can be found at <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/> .

COURSE SCHEDULE:

For critical semester dates see <http://www.registrar.ufl.edu>

The chapters we will cover in this course will provide a solid foundation in Behavioural Neuroscience, which will prepare students for more advanced courses that are offered by faculty of the Behavioral and Cognitive Neuroscience program. Those more advanced courses include courses on the neurobiology of additional sensory systems (hearing, taste and smell), the neurobiology of drug addiction, the neurobiology of emotion, the neurobiology of stress, developmental neurobiology, the neurobiology of learning and memory, etc.

Approx. Dates	Chapter and Topic
Jan 14-16	Chapter 1: Biological Psychology: Scope and Outlook <i>Quiz for chapter 1, due Sunday Jan 19 at 11:59 pm</i>
Jan 21-28	Chapter 2: Functional Neuroanatomy: The Nervous System and Behavior <i>Quiz for chapter 2, due Sunday Feb 2 at 11:59 pm</i>
Jan 30-Feb 6	Chapter 3: Neurophysiology: Generation, Transmission, Integration of Neural Signals <i>Quiz for chapter 3, due Sunday Feb 9 at 11:59 pm</i>
Feb 10	<i>optional review session (10:40-11:30, Zoom Meeting ID: 986 3871 5144 passcode PSB3340)</i>
Feb 11	Exam #1: Chapters 1 - 3, and all material covered in lectures
Feb 13-20	Chapter 4: Neurotransmitters and Neuropharmacology <i>Quiz for chapter 4, due Sunday Feb 23 at 11:59 pm</i>
Feb 25-27	Chapter 5: Hormones and the Brain <i>Quiz for chapter 5, due Sunday March 2 at 11:59 pm</i>
March 4-6	Chapter 6: Evolution of the Brain and Behavior <i>Quiz for chapter 6, due Sunday March 9 at 11:59 pm</i>
March 10	<i>optional review session (10:40-11:30, Zoom Meeting ID: 986 3871 5144 passcode PSB3340)</i>
March 11	Exam #2: Chapters 3-6, and all material covered in lectures
March 18-20	<i>Spring Break - no classes</i>
March 13, 25-27	Chapter 7: Lifespan Development of the Brain and Behavior <i>Quiz for chapter 7, due Sunday March 30 at 11:59 pm</i>
April 1	Chapter 8: General Principles of Sensory Processing <i>Quiz for chapter 8, due Sunday April 6 at 11:59 pm</i>
	We will skip chapter 9
April 3-10	Chapter 10: Vision: From Eye to Brain <i>Quiz for chapter 10, due Sunday April 13 at 11:59 pm</i>
April 15-17	Chapter 11: Motor Control and Plasticity <i>Quiz for chapter 11, due Sunday April 20 at 11:59 pm</i>
April 21	<i>optional review session (12:50-1:40, Zoom Meeting ID: 967 6582 3937 passcode PSB3340)</i>
April 22	Exam #3: Chapters 7, 8, 10, and 11, and all material covered in lectures
May 1 (5:30-7:30)	Final Exam: Chapters 1-8, 10, and 11, and all material covered in lectures

COURSE EVALUATIONS: Students are expected to provide professional and respectful feedback on the quality of this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.ua.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, or in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results [are available to students here](#).

GETTING HELP: For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

** Any requests for special consideration due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail Dr. Devine within 24 hours of the technical difficulty if you wish to request any special considerations.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

ADDITIONAL SUPPORT FOR STUDENTS WITH DISABILITIES: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. [Click here to get started with the Disability Resource Center](#). It is important for students to share their accommodation letter and discuss their access needs, as early as possible in the semester.

CURRENT UF GRADING POLICIES FOR ASSIGNING GRADE POINTS can be found at this [link to the university grades and grading policies](#).

IN-CLASS RECORDING: Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Campus Resources: Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact <mailto:umatter@ufl.edu>, 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the [Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the [Student Health Care Center website](#).

University Police Department: Visit [UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the [UF Health Emergency Room and Trauma Center website](#).

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call 352-273-4450.

Campus Resources: Academic Resources

E-learning technical support: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at <mailto:helpdesk@ufl.edu>.

[Career Connections Center:](#) Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

[Library Support:](#) Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email ask@ufl.libanswers.com for more information.

[Teaching Center:](#) 1317 Turlington Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

[Writing Studio:](#) Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.

Academic Complaints: Office of the Ombuds; Visit the [Complaint Portal webpage](#) for more information.

Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.

ACADEMIC HONESTY GUIDELINES: The academic community of students and faculty at the University of Florida strives to develop, sustain and protect an environment of honesty, trust and respect. Students are expected to pursue knowledge with integrity. Exhibiting honesty in academic pursuits and reporting violations of the Academic Honesty Guidelines will encourage others to act with integrity. Violations of the Academic Honesty Guidelines shall result in judicial action and a student being subject to the sanctions in paragraph XI of the Student Conduct Code. The conduct set forth hereinafter constitutes a violation of the Academic Honesty Guidelines ([University of Florida Rule 6C1-4.017](#)).

Cheating. The improper taking or tendering of any information or material which shall be used to determine academic credit. Taking of information includes, but is not limited to, copying graded homework assignments from another student; working together with another individual(s) on a take-home test or homework when not specifically permitted by the teacher; looking or attempting to look at another student's paper during an examination; looking or attempting to look at text or notes during an examination when not permitted. The tendering of information includes, but is not limited to, giving of your work to another student to be used or copied; giving someone answers to exam questions either when the exam is being given or after taking an exam; giving or selling a term paper or other written materials to another student; sharing information on a graded assignment.

Plagiarism. The attempt to represent the work of another as the product of one's own thought, whether the work is published or unpublished, or simply the work of a fellow student. Plagiarism includes, but is not limited to, quoting oral or written materials without citation on an exam, term paper, homework, or other written materials or oral presentations for an academic requirement; submitting a paper which was purchased from a term paper service as your own work; submitting anyone else's paper as your own work.

Misrepresentation. Any act or omission with intent to deceive a teacher for academic advantage. Misrepresentation includes using computer programs generated by another and handing it in as your own work unless expressly allowed by the teacher; lying to a teacher to increase your grade; lying or misrepresenting facts when confronted with an allegation of academic dishonesty.

Fabrication. The use of invented or fabricated information or the falsification of research or other findings with the intent to deceive for academic or professional advantage.

UF's Academic Honesty Policy is clearly stated in rule [6C1-4.017 Student Affairs: Academic Honesty Guidelines](#).

Honor Pledge. We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

In response to COVID-19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit [one.uf](#) for screening / testing and vaccination opportunities.
- If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.
- Course materials will be provided to you with an excused absence (documentation required), and you will be given a reasonable amount of time to make up work.