PSB 3340 Behavioral Neuroscience Summer B 2022

Section #042C; Class #12765 – 3 credits class time: Weekdays (M-F) period 3, 11:00 a.m. - 12:15 p.m. room: New Engineering Building (NEB) room 0202 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 with us. I promise, it will be an exhilarating adventure.

Professor: Darragh P. Devine, Ph.D. dpdevine@ufl.edu 273-2174 office hours: Tues and Thurs 1:00 - 2:00 p.m. (or by appointment) Zoom link for office hours and appointments = 973 8732 7443; password = PSB3340

Teaching Assistant: Cassandra Modrak cassandramodrak@ufl.edu

office hours: Monday 2:00 - 3:00 and Wednesday10:00 am - 11:00 a.m. (or by appointment) Zoom link for office hours and appointments = 635 712 8526; password = PSB3340

There is also a link on the Canvas website, through which you can e-mail Dr. Devine and Ms. Modrak.

Required Text: *Behavioral Neuroscience*, 8th or 9th ed. (2017 or 2020), by S. M. Breedlove and N. V. Watson (ISBN #_978-1605356426 or ISBN# 978-1605359076)



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 Ms. Modrak will be available to answer questions during online office hours, or through email. Any e-mailed questions will be answered within approximately 24-48 hours (questions on the weekend may wait until the following Monday). In addition, students may post questions on the "Course Questions" bulletin board under the "Discussions" tab on the Canvas website. This forum is especially useful for general questions about the course, or for communication between students. Dr. Devine will respond to questions posted on the Discussion board after at least a 24 hour delay, allowing time for other students to get involved in Discussions.

COURSE OBJECTIVES: 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, and the Interdisciplinary Studies (IDS) Neurobiological Sciences major. It is also the pre-requisite for all 4000-level PSB courses (e.g. PSB4240, PSB4342, PSB4434, PSB4810, PSB4934). Students cannot take both PSB3002 and PSB3340. Only one of these courses will count.

PREREQUISITE KNOWLEDGE and SKILLS: Students who register for this course are required to have an introductory course in Biology (BSC2010). Fundamental knowledge in 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.

GRADING: This course will have eleven short online quizzes (one per chapter), and three in-person exams:

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 40% of the final grade (4% per quiz, counting the best 10 quizzes; see quiz/exam policy, below).

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).

QUIZ/EXAM POLICY: Each online quiz is available on the dates and times specified in this syllabus, and will close at its due date and time (i.e. the end of the week in which the chapter is assigned). All online quizzes must be completed on time. Late quizzes will not be graded under any circumstances. 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, so you are expected to have a reasonable knowledge of the material in order to complete the quiz in the allotted time.

If you complete all quizzes, your best 10 out of 11 quizzes will count toward your final grade. If you miss a quiz, all your remaining 10 quizzes will count, and there is no additional penalty. If you miss more than one quiz, you will be given a score of 0 (zero) on those missed quizzes, and those grades will be included in the calculation of your final grade. Please pay careful attention to the due dates for all quizzes – as we will cover multiple chapters in a week, more than one quiz will be due at the end of each week.

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 miss an in-person exam for any reason, the make-up test will consist of 5 essay questions worth 20 points each. *There will be no other make-up tests under any circumstances*. This includes any illness, or any other misfortune.

You will need to bring an official photo ID (Gator1, driver's license) to take the exams. You will be required to display the ID on your desk during the exam. You will also need a #2 pencil to take exams. Note – If you arrive late for an exam, you may be refused. If any student has completed the exam and left, you will not be permitted to write the exam.

The grading scheme is as follows:

A	93-100	С	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
В	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	Е	<60

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.

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 ingestive behaviour (feeding and drinking), the neurobiology of drug addiction, the neurobiology of emotion, the neurobiology of stress, the neurobiology of developmental disorders, the neurobiology of learning and memory, etc.

Dates	Chapter and Topic
June 27 - July	7 Chapter 1: Biological Psychology: Scope and Outlook
	Quiz for chapter 1, due Friday July 1 at 11:59 pm
	Chapter 2: Functional Neuroanatomy: The Nervous System and Behavior
	Quiz for chapter 2, due Friday July 1 at 11:59 pm
July 4	Independence Day – no class
July 5 - 7	Chapter 3: Neurophysiology: Generation, Transmission, Integration of Neural Signals
2	Quiz for chapter 3, due Thursday July 7 at 11:59 pm
July 7	optional review session (room NPB 1002, 1:00-3:00 p.m.)
July 8	Exam #1: Textbook chapters 1 - 3, and all material covered in lectures
July 11 - 15	Chapter 4: Neurotransmitters and Neuropharmacology
-	Quiz for chapter 4, due Friday July 15 at 11:59 pm
	Chapter 5: Hormones and the Brain
	Quiz for chapter 5, due Friday July 15 at 11:59 pm
	Chapter 6: Evolution of the Brain and Behavior
	Quiz for chapter 6, due Friday July 15 at 11:59 pm
July 18 - 21	Chapter 7: Lifespan Development of the Brain and Behavior
•	Quiz for chapter 7, due Thursday July 21 at 11:59 pm
	Chapter 8: General Principals of Sensory Processing
	Quiz for chapter 8, due Thursday July 21 at 11:59 pm
July 21	optional review session (room NPB 1002, 1:00-3:00 p.m.)
July 22	Exam #2: Textbook chapters 4-8, and all material covered in lectures
	We will skip chapter 9
July 25 - 29	Chapter 10: Vision: From Eye to Brain
2	Quiz for chapter 10, due Friday July 29 at 11:59 pm
August 1 - 4	Chapter 11: Motor Control and Plasticity
•	Quiz for chapter 11, due Thursday August 4 at 11:59 pm
	Chapter 12: Sex: Evolutionary, Hormonal, and Neural Bases
	Quiz for chapter 12, due Thursday August 4 at 11:59 pm
August 4	optional review session (room NPB 1002, 1:00-3:00 p.m.)
August 5	Exam #3: Textbook chapters 10-12, 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. 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 <u>ufl.bluera.com/ufl/</u>. Summaries of course evaluation results <u>are available to students here</u>.

NETIQUETTE – COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. <u>http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf</u>

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. <u>Click here to get started with the Disability Resource Center</u>. 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 <u>link to the</u> <u>university grades and grading policies</u>.

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 6CI-4.0I7 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, and you will be given a reasonable amount of time to make up work.