

SYLLABUS

Behavioral Chemistry

PSYC559 / NEUR461

Spring 2022

MW: 10:30-11:45AM_Krug Hall, Room 253

Instructor: Ted Dumas

Contact Information: tdumas@gmu.edu, 703-993-9170

Office Hours: Mondays, 12:00-1:00PM or by appointment

Office Location: Krasnow Hall, Room 109

Technology requirements: Blackboard, Mason email account

Last day to add: 01/21/2022

Last days to drop: 02/07/2022 (0% tuition liability), 02/14/2022 (50% tuition liability)

Selective Withdrawal Period: 03/02/2022 - 04/11/2022 (100% tuition liability)

COURSE OBJECTIVES

This is an advanced multidisciplinary course centered on stress and anxiety. Relationships between body and mind are emphasized. The first third of the course covers nuts and bolts about the neurobiology associated with thoughts, feelings, and actions. The second third of the course defines important terms and discusses the basics of mind-body connections. The latter third of the course focuses on interactions between cognition and emotion and finishes with a holistic approach to living a healthier life. The course is lecture-based.

TEXT

There is no textbook to purchase. Course material is derived from *Neuroscience 6e* (Purves et al) and a six-hour seminar delivered by the instructor to healthcare providers. The syllabus for this course, *Calming an Overactive Brain*, will be distributed via BlackBoard. All other reading materials are primary research manuscripts and review articles also be available at Blackboard. Two talks by Dr. Robert Sapolsky (Stanford Neurobiologist) will be the substance of one of the lectures.

Talks by Dr. Robert Sapolsky

"The Uniqueness of Humans"

https://www.ted.com/talks/robert_sapolsky_the_uniqueness_of_humans

(37 minutes)

"The Biology of Humans at Their Best and Worst"

<https://www.youtube.com/watch?v=ORthzIOEf30&list=PL4sAUyGOV7IZW4fx6Ncy6-RwcYLCNapQC&index=8>

(16 minutes)

GRADING

Exams

There are a total of three scheduled exams, one being a final examination. Each exam will be worth 30% of your final grade. The final exam is NOT cumulative. There are no make-up exams.

Presentations

Each student is required to deliver one very short presentation (approximately five minutes) on a topic related to the course that is scheduled with the instructor at least one week in advance.

The instructor must approve the topic and presentation contents prior to the presentation. The presentation counts for 10% of your final grade. Student presentation dates are April 5th and April 7th. There are no make-up presentations.

GRADING POLICY

A score of 90% or above generally results in a grade of A- or above, 80-89% corresponds to a B- or above, 70-79% results in a C- or above, and 65-69% results in a D. For undergraduates, a final grade below 65 is a failing grade. For graduate students, any final grade below 80 is a failing grade. These number-to-letter grade conversions serve as a guideline and are not absolute. The final grades may be determined on a curve if this is in the students' favor and justified in the opinion of the instructor. Make-up exams are not allowed unless the student has written medical documentation. Please do not put the instructor in a difficult position by missing an exam and requesting a make-up without written medical documentation.

ACADEMIC INTEGRITY

GMU is an Honor Code university. Please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously. What does academic integrity mean in this course? Essentially, when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free exchange of ideas regardless of gender, race, ability, or age. Vigorous discussion and debate are encouraged with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

GMU EMAIL ACCOUNTS

Students must use their Masonlive email accounts to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.

OFFICE OF DISABILITY SERVICES

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Services (DRS) at 703-993-2474. All academic accommodations must be arranged through the DRS. <http://ds.gmu.edu>

WRITING CENTER: A114 Robinson Hall; (703) 993-1200; <http://writingcenter.gmu.edu>

UNIVERSITY LIBRARIES "Ask a Librarian" <http://library.gmu.edu/ask>

COUNSELING AND PSYCH SERVICES (CAPS): (703) 993-2380; <http://caps.gmu.edu>

UNIVERSITY POLICIES

The University Catalog, <http://catalog.gmu.edu>, is the central resource for university policies affecting student, faculty, and staff conduct in university academic affairs. Other policies are available at <http://universitypolicy.gmu.edu/>. All members of the university community are responsible for knowing and following established policies.

CLASS POLICIES:

- *The instructor of this course reserves the right to enter a failing grade to any student found guilty of an honor code violation.*
- *Cell phones, pagers, and other communicative devices are not allowed in this class. Please keep them stowed away and out of sight. Laptops or tablets (e.g. iPads) may be permitted for the purpose of taking notes only.*
- *Regarding electronic devices (such as laptops, cell phones, etc.), please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism and may affect your grade.*
- *Cancellation policy: If class is cancelled for any reason, the Mason Alert System or the Instructor will contact the class by email. Missed material will be made up within future scheduled class sessions. No additional class sessions will be added.*

Neuroscience 6e
Calming an Overactive Brain

Week of Semester	Monday	Wednesday
Week 1 Jan. 24 th , Jan. 26 th	Neurotransmitters_ACh & amino acids (Ch. 6)	Neurotransmitters_Monoamines, Endocannabinoids & NO (Ch. 6)
Week 2 Mar. 31 st , Feb. 2 nd	Neurotransmitter Receptors (Ch. 6)	Synaptic Transmission (Ch. 5)
Week 3 Feb. 7 th , Feb. 9 th	STP & LTP (Ch. 8)	Silent Synapses, STDP & LTD (Ch. 8)
Week 4 Feb. 14 th , Feb. 16 th	Exam 1 Review	<i>No Lecture</i>
Week 5 Feb. 21 st , Feb. 23 rd	Exam 1_10:30am-12:15pm	Sapolsky talks
Week 6 Feb. 28 th , Mar. 2 nd	Intro_Fear & Stress	Intro_Anxiety & Anxiety Disorders
Week 7 Mar. 7 th , Mar. 9 th	Immunity	Eating & Digestion
Week 8 Mar. 14 th , Mar. 16 th	<i>Spring Recess</i>	<i>Spring Recess</i>
Week 9 Mar. 21 st , Mar. 23 rd	Child Development	<i>No Lecture</i>
Week 10 Mar. 28 th , Mar. 30 th	Exam 2 Review	Exam 2_10:30am-12:15pm
Week 12 Apr. 4 th , Apr. 6 th	<i>No Lecture</i>	<i>Student Presentations</i>
Week 13 Apr. 11 th , Apr. 13 th	<i>Student Presentations</i>	Obsessive-Compulsive Disorders
Week 14 Apr. 18 th , Apr. 20 th	Sleep & Pain	Brain Function & Memory
Week 15 Apr 25 th , Apr. 27 th	Depression, Helplessness & PTSD	Coping_Exercise, Diet, & Behavioral Therapies
Week 16 May 2 nd , May 4 th	<i>No Lecture</i>	Final Exam Review
Week 16 May 9 th , May 11 th		Final Exam: 10:30-1:15pm