

PSB 4934
Special Topics in Psychology: Neuroeconomics
University of Florida
Fall 2024

Meeting Times: M,W,F 1:55-2:45

Location: CHE (Chemical Engineering) 316

Instructor: Matt (Wendel) Friedl, Ph.D.

Office hours: 3-4 PM M,W,F. Other days/times by request, in-person or via Zoom.

email: Please use Canvas messaging; alternate email: wfriedl@ufl.edu

Office: Psychology 017 (basement level)

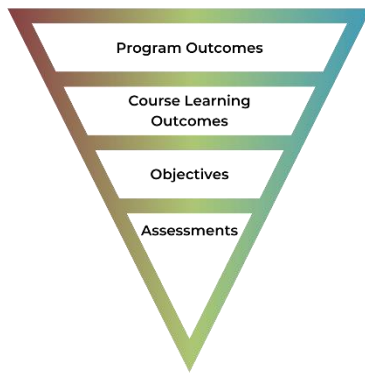
*I reserve the right to revise the syllabus to accommodate the needs of the course. Any updates will be posted to the course announcements section of Canvas.

Contents (Ctrl+click to follow link)

Course Description	1
Course Learning Objectives.....	2
Course Requirements and Policies.....	2
Reading & Course Schedule	8

Course Description

This course will introduce students to neuroeconomics, a field of research that combines economic, psychological, and neuroscientific approaches to study decision-making. The first half of the course will focus on our current understanding of how our brains give rise to decisions, especially how individuals make decisions under conditions of uncertainty and stress. The second half of the course will concentrate on the emerging field of neuroenergetics—the usage of neural energy within the brain—and how neural energy constraints may influence the decision-making process.



Course Learning Objectives

Three overarching **outcomes** of this course are: 1) To introduce/review basic neural functioning from the perspective of the brain as an economic resource manager; 2) To familiarize students with the methods and techniques that are used in neuroeconomics; 3) To survey some of the major questions neuroeconomists have asked and what answers they have found to these questions.

Accomplishment of course learning **objectives** will be assessed (see **grading** section of syllabus for details) via quizzes, scoring of Perusall posts, two exams, and a group research paper.

Course Requirements and Policies

Required Readings

All readings will be from primary source articles and will be provided on the course Canvas page. Additionally, readings will make use of Perusall, a software program designed to make required readings a more interactive and collaborative experience. Perusall will be discussed more during the first week of the course.

Course Prerequisite

An introductory course in psychology (PSY 2012).

Introductory courses in neuroscience (PSB3002 or PSB3340) and/or economics may be helpful, but no knowledge of these areas will be assumed.

Other Requirements

- ACCESS TO OFFICIAL UF E-MAIL

Check your UF e-mail regularly (daily). All course announcements, including any modifications to this syllabus, will be communicated via e-mail and Canvas announcements. Any grade-related information will only be sent to a UF e-mail address or discussed in-person.

- COMPUTING / TECHNOLOGY

This course requires adherence UF's minimum technology requirements (recommendations [here](#)). These include a computer with webcam, microphone, speakers, and access to a stable internet connection.

A wired connection is recommended when taking quizzes and/or exams.

- A dedicated room for online assessments is available in UF Library West. To make a reservation for a time of high demand go to the following website: <http://ufl.libcal.com/spaces?lid=4458&gid=8873>
- Other on-campus computer options can be found here <https://labs.at.ufl.edu/>

For technical support, contact the UF Help Desk: <https://helpdesk.ufl.edu/>.

In the event of a technical problem, a support ticket must be obtained from the UF help desk. Technical support will be able to diagnose and certify the source of any problem. Course instructor will not respond regarding *any* technical problems that do not have a prior support ticket from the UF helpdesk—include this support ticket # when communicating the problem.

- CANVAS

Course materials and assignments will be posted to the course Canvas page (<http://lss.at.ufl.edu>; click “Canvas Login”)

Be sure to familiarize yourself with the page and how/where to access information during the first week of class.

Course Policies

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

- MAKE UP POLICY FOR MISSED EXAMS, QUIZZES, OR READINGS

Any extension to due dates listed in the syllabus is contingent upon receipt of documentation within 24 hours of the regularly scheduled due date.

Extensions will only occur in extreme circumstances. A Dean of Students note (<https://care.dso.ufl.edu/instructor-notifications/>) verifying documentation of illness or a personal matter must be provided. All requests for completing assigned work at days or times other than provided in the syllabus should be submitted well in advance of the regularly scheduled assignment. In emergency situations where advance notice is not possible, provide notice and documentation **within 24 hours** (1 day) of the due date for the scheduled assignment.

Note that **an e-mail prior to class will not be considered sufficient**, unless it is just to provide notice that you will be missing class and that some form of corroborating documentation is forthcoming.

Due dates for make-up Exams or quizzes will be adjusted according to the number of days outlined in supporting documentation. For example, if a doctor’s note states that a student should be excused for a Friday class period and can return to school on Monday, due dates will be adjusted by 1 business day such that a quiz or exam scheduled on Friday will need to be completed by the end of the day on Monday.

All exams must be taken in-person with a proctor. Thus, the available times and dates for make-up exams will be limited.

Reading assignments and Perusall posts are available throughout the week and are not intended to be completed at the last possible minute. It will usually not be possible to earn full points on a Perusall assignment by reading and posting comments in a single day.

- ACCOMMODATION FOR DISABILITIES

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). **Accommodations are not retroactive**, so students should contact the office as soon as possible in the term for which they are seeking accommodation. Documentation should be provided prior to taking quizzes or exams – the earlier the better. The Dean of Students Office will provide documentation (an accommodation letter) to the student and the instructor.

- RELIGIOUS OBSERVANCES / UF SPONSORED ACTIVITIES

Documentation is not required, but a student needs to inform the instructor if religious observances of their faith or UF sponsored activities (e.g. sports, student government, etc.) will conflict with scheduled quizzes or examinations **prior to** the class or occurrence of that test or activity.

- ILLNESS OR OTHER PERSONAL EMERGENCIES

For any medical conditions, psychological conditions, illnesses, or injuries that prevent completing scheduled quizzes or examinations, the student should notify the instructor as soon as possible and arrange to provide supporting documentation. The student healthcare center (<https://shcc.ufl.edu>) can provide verifications of visits, as well as excuse notes in certain situations (see <https://shcc.ufl.edu/forms-records/excuse-notes/>).

- Counseling and wellness center: <http://www.counseling.ufl.edu/cwc/Default.aspx>
- University Police Department: 392-1111 or 9-1-1 for emergencies.

- SEXUAL HARASSMENT

Sexual Harassment is not tolerated in this class, in the Department of Psychology, or at the University of Florida. Sexual harassment includes: the inappropriate introduction of sexual activities or comments in a situation where sex would otherwise be irrelevant. All UF employees and students must adhere to UF's sexual harassment policy which can be found here: <https://hr.ufl.edu/forms-policies/policies-managers/sexual-harassment/>. Please review this policy and contact a university official if you have any questions about the policy.

As mandatory reporters, university employees are required to report knowledge of sexual harassment to UF's Title IX coordinator. For more information about UF's Title IX office see: <https://titleix.ufl.edu/>. You can also complete a Sexual Harassment Report online (Title IX) at: <https://titleix.ufl.edu/title-ix-reporting-form/>.

- COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Students will be notified when the evaluation period opens and can complete evaluations through the e-mail

they receive from GatorEvals. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

- **ACADEMIC HONESTY**

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."

Students who share information pertaining to course content from quizzes or exams will be referred to Student Conduct and Conflict Resolution (SCCR) Office in the Dean of Students Office (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>).

- **LECTURE RECORDINGS**

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 educational 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.

Publication without permission from 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.

Grading

Grade points will be assigned according to current UF policy:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Final course grades will follow the standard grading scale shown to the right.

Letter Grade	Range
A	100% to 93.5%
A-	< 93.5% to 89.5%
B+	< 89.5% to 86%
B	< 86% to 82.5%
B-	< 82.5% to 79.5%
C+	< 79.5% to 76%
C	< 76% to 72.5%
C-	< 72.5% to 69.5%
D+	< 69.5% to 66%
D	< 66% to 62.5%
D-	< 62.5% to 59.5%
E	< 59.5% to 0%

- **No individual exceptions to this grading scale will be considered.**
- Letter grades will be assigned as shown above **without additional rounding**; for example, 93.499% would be an A- and 93.500% would be the lowest average to earn an A.
- No grading curve will be applied unless the final class average is lower than 72.5% (C-). If the average final course grade is lower than 72.5%, an equal number of points will be added to each student's grade until the average is 72.5% (C).
- No extra credit assignments are anticipated. If extra credit is available, it will be announced to the entire class.

FINAL GRADE CALCULATION

	each	Total
Exams (2)	30%	60%
Quizzes (12)	2.25%	27%
Attendance (?)	?	3%
Perusal readings (18)	0.56%	10%

- EXAMS

Two non-cumulative exams will be taken in-person. Each exam will be composed of approximately 30 multiple choice questions. Each exam must be completed within a standard class period (50 minutes), with any unanswered questions at the end of the period counted as incorrect. Exams must be completed and turned in before leaving the room (such as for bathroom breaks or to answer a phone call) or accessing phones for any reason. Phones should be kept out of sight once the student ID has been entered on the exam Scantron form.

Exams will cover only the text and lecture material from the chapters that have been covered since the last exam (exam 2) or the first day of class (exam 1). Syllabus information will not be tested on Exam 1.

Exams are closed book, but you may bring **one page of handwritten notes** (standard sized paper, front and back).

Be sure to be on time for exams. Anyone arriving after the first person has turned in his/her/their exam will not be allowed to take the exam and thus will receive a 0. Students with DRC accommodations should schedule to take exams at the DRC office at the beginning of the semester.

Answers will be marked on a scantron sheet with a #2 pencil. Be sure to **bring a pencil, your student ID card, and your single page of handwritten notes** to class on exam days.

No course material will be covered on exam days.

To preserve the integrity of exam materials across classes and years, exam answers will NOT be provided on the class Canvas page or submitted in any electronic format (e-mail, Zoom, etc.). Feedback pertaining to missed questions or correct answers will be provided only during office hours for an individual student. During office hours meetings to discuss exams, a hardcopy (printed on paper) version of the exam will be available for review only (no pictures, no recordings). You will never see these exact questions again, so there is no need to memorize them anyway.

Each exam will be available for review during office hours for a period of two weeks following the exam.

- QUIZZES

Each week there will be a 5-question quiz on the Canvas course website. Quizzes will cover only new material since the preceding quiz (non-cumulative).

Quizzes are **open notes and open book**. However, quizzes will be limited in time, so you will not be able to look up or Google-search every question. Each quiz must be **completed within 3 minutes** of starting it, after which time the quiz will be automatically submitted, and any unanswered questions will be counted as incorrect. Be sure you are well prepared before beginning the quizzes.

Quizzes may be taken twice (different questions will usually appear), and the highest score will be kept.

There will be an initial quiz covering the syllabus. This initial quiz serves both to familiarize students to the structure and timing of the quizzes and to ensure course policies are known. On the initial syllabus quiz only, you will be able to re-take the quiz an unlimited number of times until you score 100%.

- PERUSALL DISCUSSIONS AND QUESTIONS

Perusall is a social annotation tool designed to make course readings interactive, akin to social media posting. It has been estimated that after two weeks, we only remember about 10% of what we read, 20% of what we hear, but 70% of what we discuss with others (Dale, E. (1969). Audiovisual methods in teaching.)

Note that posts must demonstrate proper written English, including capitalization, spelling, and grammar. A link to Perusall will be in the Canvas course menu, and instructions for using this tool will be provided.

Each week, you will be required to access Perusall at least twice as you complete your reading and commenting – DO NOT WAIT UNTIL THE LAST MINUTE.

You will make 3-5 total annotations each week. At least one post should be in response to classmates' questions or posts, and at least one post should be a question.

Posts will be evaluated for quality by Perusall's automated AI algorithm. Five posts that are evaluated as "high quality", spread throughout the reading assignment (not all within one section), along with reading the entire assignment and accessing reading material on at least two separate days, are all criteria used to arrive at an overall score for each assignment.

Attendance: Attendance will be taken occasionally, on unannounced days/times. The only way to receive credit for attendance is to be physically present in the classroom. Excused absences (with documentation) will not count against the final attendance calculation. Every student is also

allowed one unexcused absence without penalty. For example: Attendance gets taken 15 times during the semester (14 count for the grade, one is dropped). If a student misses three attendance days without documentation and one day with a doctor's note (excused absence makes the denominator of attendance 13 days), that student would receive 10/13 or 77% of the maximum attendance points.

Reading & Course Schedule

Week	Day	Topics	Reading	#	Week	Day	Topics	Reading	#
1	Mon				9	Mon	Bioenergetics		11
19-Aug-	Wed				14-Oct-	Wed	Video: Suzanna H.H	TED talk	
23-Aug	Fri	Introduction	Syllabus		18-Oct	Fri	Homecoming		
Week	Day	Topics	Reading	#	Week	Day	Topics	Reading	#
2	Mon	Defining Neuroecon.	Lowenstein et al. 2008	1	10	Mon	The Energetic Brain	Students 2020	12
26-Aug-	Wed				21-Oct-	Wed			
30-Aug	Fri	Video: A. Rangel TED talk			25-Oct	Fri			
Week	Day	Topics	Reading	#	Week	Day	Topics	Reading	#
3	Mon	Holiday			11	Mon	Expensive Tissue Hyp.	Aiello & Wheeler 1995	13
2-Sep-	Wed	Brain regions 1	Mallio et al. 2024	2	28-Oct-	Wed			
6-Sep	Fri	Brain regions 2	Camerer et al. 2004	3	1-Nov	Fri			
Week	Day	Topics	Reading	#	Week	Day	Topics	Reading	#
4	Mon	Evolution & neuroecon.	Santos & Platt chapter	4	12	Mon	Energy on Demand	Magistretti et al. 2011	14
9-Sep-	Wed				4-Nov-	Wed			
13-Sep	Fri	Models vs reality	Map is not the territory	5	8-Nov	Fri	Selfish Brain Hyp.	Peters 2011	15
Week	Day	Topics	Reading	#	Week	Day	Topics	Reading	#
5	Mon	Animal models 1	Zentall 2015	6	13	Mon	Holiday		
16-Sep-	Wed	Animal models 2	Thom & Clayton 2015	7	11-Nov-	Wed	Metabolism Limited Per.	Bruckmeier et al. 2020	16
20-Sep	Fri				15-Nov	Fri	Cognitive Demand Costs	Kool et al. 2010	17
Week	Day	Topics	Reading	#	Week	Day	Topics	Reading	#
6	Mon	Value in the brain	Vlaev et al. 2011	8	14	Mon	Neuroeconomics Rev.	Rangel et al. 2008	18
23-Sep-	Wed				18-Nov-	Wed			
27-Sep	Fri	Stress & decision making	Porcelli & Delgado 2017	9	22-Nov	Fri	Video: How Brains Decide		
							Thanksgiving Break	25-Nov - 29-Nov	
Week	Day	Topics	Reading	#	Week	Day	Topics	Reading	#
7	Mon	Emotions	Lerner et al. 2015	10	15	Mon	Review		
30-Sep-	Wed				2-Dec-	Wed	Exam #2		
4-Oct	Fri				6-Dec	Fri			
Week	Day	Topics	Reading	#					
8	Mon	Review							
7-Oct-	Wed	Exam #1							
11-Oct	Fri								

Weekly Schedule

In a typical week, complete weekly reading and Perusall posts on the reading by the end of the day **(11:59 PM) every Thursday**

Complete a short (5 questions) quiz on the reading and class discussion material every **Sunday (11:59 PM)**

Be sure to follow due dates posted in Canvas, especially during weeks containing a holiday