PSY-225: Brain, Mind and Behavior

Course Syllabus
Fall 2022

Course Information:
Mondays and Wednesdays, 12:30PM – 1:50PM ET | Discovery Center 3328
Course website: http://OnCourse.wheatoncollege.edu/
You will be asked to login using your Wheaton ID number and password (the same password you use for Wheaton email). Once logged in, you should be taken to a page of links for all courses in which you are enrolled that have onCourse sites. It is expected that you check our course website **at least** once per week.

Contact Information:
Instructor: Christina J. Reppucci, PhD
Email: reppucci_christina@wheatoncollege.edu
Physical Office: Mars Science Center Rm 1131
Virtual Office: Zoom Meeting ID: 949 4688 3648 | Passcode: brains
Office Hours: Tuesdays 4:00PM – 5:30PM & Wednesdays 2:30PM – 4:00PM. These times are specifically set aside to answer your questions. Please use this sign-up if you'd like to meet virtually, and you are encouraged to block multiple consecutive time slots if needed. If you'd like to meet in person, sign-ups are not required, feel free to just drop-in. Scheduling conflict? Please email me to request other appointment times. *Note*: appointments outside of these office hours must be scheduled **at least 24h in advance**.

When emailing me, **please include the course code (PSY-225) in the subject line** so that the email can be easily identified, and **please allow at least 24h for a reply on weekdays or 48h on weekends**. This means that if you have questions on material before an exam or assignment deadline, emailing the day/night before may not get you answers in time. If you haven't received a response in a couple days, please feel free to send an email reminder.

IT Support Services: Email: support@wheatoncollege.edu | Submit a Service Request: ITSS Help Desk

Recommended Textbook: The Mind's Machine by Watson & Breedlove, Oxford University Press
4th edition | Paperback: 978160535973 -or- E-book: 9780197542248
-or- 3rd edition | Paperback or E-book: 9781605357300

Digital, used, and/or rental options will save you money!

Support is available for students having trouble purchasing required materials for classes. Students can contact Karen McCormack in the Office of the Provost for help finding support for required materials.

Access to other readings, videos, handouts, PowerPoint lectures, etc. will be made available via OnCourse.

Course Description & Objectives:
This course will serve as an **introduction to neuroscience** through a survey of topics that focus on the structure and function of the nervous system. We will also explore how the nervous system produces various behaviors such as sensation and perception, sleep, learning, and clinical disorders. By the end of this course, you will understand the neurobiological mechanisms that underlie our cognitive processes and behaviors, i.e., how the brain communicates with the body and vice versa.

The main objectives of this course are to:
1. Describe the diverse nature of the field of behavioral neuroscience.
2. Describe the basic structure and function of the mammalian nervous system, and the processes involved in electrochemical communication within the nervous system.
3. Describe the process by which sensation becomes perception, and identify the physiological mechanisms involved in the major senses.
4. Describe the significance of the scientific study of the brain, nervous system, and endocrine system to better understand behavior and mental processes.

****

RESPECT. A successful learning experience requires mutual respect on behalf of the student and the instructor at every level. We should value one another and be open to diverse perspectives. Students are expected to always show courtesy, civility, and respect for one another and for the instructor. Comments that degrade or ridicule another are unacceptable.

We are a TEAM. I hope that we will work together throughout the semester to learn from each other. I will do my best to provide resources and tailor the course material to fit your interests, but I also ask for you to actively participate in our goal of sharing knowledge! It can be in the form of current news/new discoveries, interesting studies, questions, etc, both in class and via our OnCourse Community and Discussion boards. If I can't answer your question during class, I promise to do some research and post information on our OnCourse site.

****

It is strongly encouraged that you complete assigned readings BEFORE coming to class. This is particularly important for students who have not had previous exposure to concepts and terminology in biology or psychology. Many of you may feel like you are learning a new language and as with any language, exposure is an important component to understanding. You will get the most out of our time together in the classroom if you have already been exposed to the terminology and topics. Reading before coming to class will also prime you to the topics that you may need more explanation for and will allow you to get more out of class by participating in discussions. Questions and comments during class are greatly appreciated, so do not hesitate to speak up—likely another student has a similar question and/or could benefit from a similar clarification!

Course Workload Expectations: At Wheaton College, students are expected to spend approximately 3 hours of class time and 9 hours of out-of-class academic activity for each course/credit.

Grading:
Grading is non-competitive, and students are encouraged to study & discuss materials together. However, unless explicitly stated otherwise in an assignment, **any work turned in must be yours and yours alone**.

Evaluation	Percentage
[Neuro]Scientist Spotlight Presentation	5%
Neuroscience News Post	5%
Attendance & Participation	15%
Miscellaneous Homework Assignments	15%
Exams	45%
Final Reflection Paper	15%
Total	*100%*

Course final grades will be assigned on the total percentage earned during the course as follows:

> 98% = A+	87-89% = B+	77-79% = C+	67-69% = D+	< 59% = F
94-97% = A	83-86% = B	73-76% = C	63-66% = D	
90-93% = A-	80-82% = B-	70-72% = C-	60-62% = D-	

What's in a grade?

- "**A**" Work = Work that is consistently of high standard, and shows distinction in qualities such as organization, accuracy, originality, conciseness, understanding, and insight. "**A**" work also clearly demonstrates an ability to pull from multiple sources and draw connections between different courses.
- "**B**" Work = Work that is consistently above average. "**B**" work demonstrates evidence of attention to detail, organization, creativity, and the ability to transfer principles from this course to other situations.
- "**C**" Work = Work that completes the minimum requirements and is satisfactory. "**C**" work is organized and accurate, but does not go beyond essential facts.
- "**D**" Work= Work that falls below the acceptable standard. "**D**" work shows a lack of attention to detail and organization, inaccuracies, and less than minimum effort.
- "**F**" Work = Work that is unsatisfactory or incomplete.

[Neuro]Scientist Spotlight Group Presentation (5%):
Each class a group of 2-3 students will give a 5-10 min presentation on a [neuro]scientist, briefly covering who the scientist is and the type of research questions the scientist is working on. Your presentation date/topic will be assigned, and instructions and a rubric will be posted on the OnCourse site.

Neuroscience News Post (5%):
New neuroscience research discoveries are being made every day. Neuroscience News is one source for daily updates about recently published work. Please subscribe to their daily email newsletter or follow them on Twitter or Instagram (@NeuroscienceNew). Once during any point in the semester, select a story and write a ~250-500 word post on the dedicated OnCourse forum reflecting on how it connects to something we've covered in class as well as anything you found particularly interesting/surprising about the story. **Each post should be about a unique article, so make sure no one else has already written about your selection.**

Attendance & Participation (15%):
I hope that you actively participate in this course-- I have found this to be a great way to engage you in learning the material, and it makes the lectures more fun! However, not everyone is comfortable speaking up during class and we are still in uncertain times, thus participation will be based on a combination of in-class attendance and participation, and online participation via OnCourse discussion forums and Perusall collaborative annotation assignments. **Students who miss a class are responsible for making up any work completed during class**. Online participation assignments will be announced in class, but **it is your responsibility to check OnCourse for new assignments, and complete them on time.**

Miscellaneous Homework Assignments (15%):
Periodically throughout the semester you will be asked to complete different kinds of homework assignments (e.g., short writing assignments, worksheets, quizzes). In addition, each student will be responsible for writing one multiple-choice review question prior to each exam. All homework assignments will be announced in class, but **it is your responsibility to check OnCourse for new assignments and turn the work in on time**.

Exams (15% each):
There will be 3 non-cumulative online open-notes exams covering each module of the course. Exams will consist of multiple-choice, fill-in-the-blank, and/or short answer questions covering key concepts from the textbook, course lectures, and any assignments or supplemental material covered during the module.

Final Reflection Paper (15%):
You will write a 4-6 page double-spaced reflection essay on a topic related to or expanding on one of the topics we covered in class. In this paper you should: 1) identify a specific topic, case study, neurological disorder, neural system, or process that we have covered, and describe this subject in further detail, drawing on outside resources/references to expand on the subject, then 2) explain how the topic you have selected relates to your personal experience and how knowledge of your topic may be applicable to you in the future. Instructions, a rubric, and FAQs will be posted on the OnCourse site.

Absences: Your presentation partner(s) will serve as your default student buddy for note-sharing during your absence. If they were also absent, please use our Oncourse Community Board to solicit notes from another classmate. Make sure to review OnCourse to stay up-to-date on readings, lecture materials, and assignments posted during your absence. If you have any questions about the material covered during your absence, please come to my office hours or schedule an appointment. **Please contact me as soon as possible if you will be having an extended absence (3+ consecutive class sessions) and/or you will be unable to meet assignment deadlines due to your absence**. To confirm that you have reviewed course materials and are up-to-date following an extended absence (3+ consecutive class sessions), please complete a ~250 write-up summarizing your understanding and main take-aways from the material we covered during your absence. This write-up should be emailed to me once you are able to join us in-person again, and will be factored into your Attendance/Participation grade.

Late/Make-Up Assignments: The goal of work assigned in- and out-side of class is to help you learn the material and develop a deeper appreciation and understanding of the course topics and themes, thus you will receive the greatest learning benefit when work is completed by the given deadlines (as stated in class and/or

posted on the OnCourse site). However, **late/make-up will be accepted– no justifications required**. Items submitted before the next scheduled exam can earn up to **90% credit**, and items submitted before 11:59pm on Dec 11th may earn up to **75% credit**. The late penalty will be waived in the case of ***prior notice*** of a verifiable and documented emergency, school-sponsored event, or similar, but we may also be able to work something out if you get in touch with me **as soon as possible** if you are in a difficult situation. **Late/make-up work will not be accepted after Dec 11th**, at which time any missing assignments **will be marked as a 0**.

Extra Credit: Extra credit cannot be requested on an individual basis. However, throughout the semester you will be given the option to do an additional short assignment. For example, the assignment may ask you to attend a talk or to do some research and write a brief report on what you heard/discover. These specific assignments will be optional only, and are used as a way to broaden your knowledge and obtain extra credit. These extra credit opportunities will be worth a varying number points which will be added to your lowest exam grade, and the assignments will be graded as to their thoughtfulness and accuracy. You may complete as many of the opportunities are you like, but they **must be submitted by 11:59pm on Dec 11th**.

All written work should follow APA style:

- http://www.apastyle.org/ and/or the Publication Manual of the American Psychological Association
- https://library.wheatoncollege.edu/psy/guide or https://library.wheatoncollege.edu/neur/guide
- http://www.nature.com/scitable/topicpage/effective-writing-13815989
- Victoria E. McMillan's: Writing papers in the biological sciences (any edition)

Have questions about finding resources, articles, citation managers, etc?

- Chat with a librarian (M-F, 9:30am-4:30pm): https://library.wheatoncollege.edu/chat

Honor Code:
As a student at Wheaton College, you are trusted by your professors and fellow students to be honest in your academic undertakings. **Instances of academic dishonesty, including cheating or plagiarism, will be taken seriously**.

As per the faculty resolution in 2003, course work must include the following statement *with a signature*:
"I have abided by the Wheaton College Honor Code in this work."

The full Wheaton College Honor Code is as follows:

As members of the Wheaton community, we commit ourselves to act honestly, responsibly, and above all, with honor and integrity in all areas of campus life. We are accountable for all that we say and write. We are responsible for the academic integrity of our work. We pledge that we will not misrepresent our work nor give or receive unauthorized aid. We commit ourselves to behave in a manner which demonstrates concern for the personal dignity, rights and freedoms of all members of the community. We are respectful of college property and the property of others. We will not tolerate a lack of respect for these values. I accept responsibility to maintain the Honor Code at all times.

Your signature along with the statement indicated in bold italics above states your compliance with the Wheaton Honor Code. **Violations of the Honor Code will not be tolerated**. Materials submitted that are deemed violate the Honor Code will receive a grade of "F" on that assignment. Additional violations could result in a grade of "F" for the course. If you have any doubts about what you are writing and whether or not it constitutes plagiarism, please consult with me **before you turn in that work**.

Accessibility Statement:
Wheaton is committed to ensuring equitable access to programs and services and to prohibit discrimination in the recruitment, admission, and education of students with disabilities. Individuals with disabilities requiring accommodations or information on accessibility should contact Accessibility Services at the Filene Center for Academic Advising and Career Services at accessibility@wheatoncollege.edu or 508-286-8215.

I am happy to support and accommodate students with disabilities and/or learning differences. However, documentation should be provided as soon as possible and accommodations should be negotiated **no later**

than the first full week of classes. The student will also be responsible for reminding me of the required accommodations **at least one week in advance of each exam**.

Wheaton Student Support & Wellness Resources:
Your overall wellness is important and it contributes to your academic success. I want to make sure that you have information regarding resources at your disposal, and I highly encourage you to utilize these resources.

- The Counseling Center is the confidential and FREE mental health resource on campus for all students and will be offering in person and telehealth care this year. To learn about services, check out the website, or give the office a call at 508-286-3905. Additionally, the *Mental Health Support Line* is available anytime the Counseling Center is not, by calling the front desk 508-286-3905 and following voicemail prompts to be connected to a clinician (24/7, available in languages other than English, and accessible from anywhere you are in the world).
- The Filene Center strives to support your learning pathway by fostering successful academic, career, and personal development. The academic advising staff will work collaboratively with you, faculty and campus resources to ensure that you have the access and guidance to become a confident and reflective learner at Wheaton and beyond. Contact us at advising@wheatoncollege.edu.
- Many other offices on campus can also help support the holistic wellness of students. For students who identify as low-income, first-gen, LGBTQ+, or have a faith or spiritual practice they adhere to, the Center for Social Justice and Community Impact and Center for Religious and Spiritual Life (the Base) are good places for support and engagement. The Marshall Center for Intercultural Learning supports BIPOC students and those working towards breaking down barriers across differences, and the Center for Global Education supports international students, and students seeking educational opportunities abroad. The SMART and Title IX Office support students through sexual and gender based misconduct, and the Bias Incident Response Team supports individuals through a wide variety of bias events. We encourage you to reach out to any and all of these offices for support.
- Health Services through Norton Medical Center is available to support students with a variety of physical health needs including specialty support for GYN and STI care. Contact the office at 508-286-4500 to make an appointment for care. There is no copay for visits and most services are free, with select procedures and labs billed to insurance.

Personal Electronic Devices & Technology in the Classroom:
Please place your phones and any other devices on mute or vibrate before you come to class. There will be opportunities for interactive responses to questions during lectures using your internet-capable devices (smartphone, laptop, or tablet), and you may use laptops or tablets in class to consult readings or to take notes. However, **any other use of your electronic devices is prohibited** (e.g., checking email or social media, web-surfing, texting, for the purposes of academic dishonesty/violations of the Honor Code, etc.)— it's distracting to your own learning and to the learning of those around you. If you are unable to stay on-task or are otherwise distracted by your smartphone/laptop/tablet, I will ask that you put your device(s) away.

I**nstructor Recordings of Class Sessions**:
The instructor may record any or all portions of class meetings for educational purposes. A recording is defined as any video or audio replication or photographic image recorded on any device that can record images and/or sound. At the discretion of the instructor, the recordings may be shared only with students enrolled in the course and will be deleted at the conclusion of the course. In these circumstances, all students participating in the course as well as any guest speakers will be informed that recording may occur. Students may not reproduce, post, or distribute any recordings provided by the instructor.

Student Recording of Class Sessions:
Students may not record (as defined above) or transmit activities (e.g., lectures, discussions) that occur as part of a classroom session unless Accessibility Services has authorized recording as an academic accommodation for a qualified student and the student has notified the instructor of that authorization by presenting their accommodation letter. In these circumstances, all students participating in the course as well as any guest speakers will be informed that audio/video recording may occur. If a student is given authorization to record any portion of a classroom session, that student understands and agrees that the recording is for the sole use of the individual student and may not be reproduced, sold, posted on social media/online, or otherwise distributed as this would infringe on the privacy rights of others represented in the recording.

LECTURE SCHEDULE		
MODULE 1: FOUNDATIONS OF THE BRAIN		
WEEK 1		
DATE	**TOPIC(S)**	**MIND'S MACHINE READINGS & STUDENT PRESENTATIONS**
Wed 08/31	Course Overview Introduction to Neuroscience	• Reading: Behavioral Neuroscience Spans Past, Present, & Future
WEEK 2		
Mon 09/05	**Labor Day – No Class!**	
Wed 09/07	Structural Neuroanatomy	• Reading: Structure & Function (3rd ed: Parts I & II + pages 45-47; 4th ed: 1.1, 1,2, & 1.4) • [Neuro]Scientist Spotlight Presentation 1: Glia
WEEK 3		
Mon 09/12	Functional Neuroanatomy	• Reading: Structure & Function (3rd ed: pages 41-45; 4th ed: 1.3) • [Neuro]Scientist Spotlight Presentation 2: Comparative Neuroanatomy
Wed 09/14	Action Potentials	• Reading: Neurophysiology (3rd ed: Parts I & II; 4th ed: 2.1 & 2.2) • [Neuro]Scientist Spotlight Presentation 3: Synaptic Transmission
WEEK 4		
Mon 09/19	Neurochemical Systems	• Reading: The Chemistry of Behavior (3rd ed: Part I; 4th ed: 3.1 & 3.2) • [Neuro]Scientist Spotlight Presentation 4: Dopamine
Wed 09/21	Neuropharmacology	• Reading: The Chemistry of Behavior (3rd ed: Parts II & III; 4th ed: 3.3-3.7) • [Neuro]Scientist Spotlight Presentation 5: Cocaine
WEEK 5		
Mon 09/26	Hormones & the Brain	• Reading: Hormones & Sex (3rd ed: Part 1; 4th ed: 8.1) • [Neuro]Scientist Spotlight Presentation 6: Vasopressin
Wed 09/28	**REVIEW SESSION: Come to class with questions!**	
WEEK 6		
Mon 10/03	**EXAM 1 (90 minutes, online, open-notes, due no later than 11:59pm, 10/03)**	
MODULE 2: PERCEPTION & ACTION		
Wed 10/05	Touch & Pain	• Reading: The Sensorimotor System (3rd ed: Parts I & II; 4th ed: 5.1 & 5.2) • [Neuro]Scientist Spotlight Presentation 7: Pain
WEEK 7		
Mon 10/10	**October Break – No Class!**	
Wed 10/12	Movement & Proprioception	• Reading: The Sensorimotor System (3rd ed: Part III; 4th ed: 5.3) • [Neuro]Scientist Spotlight Presentation 8: Parkinson's Disease
WEEK 8		
Mon 10/17	Hearing & Balance	• Reading: Hearing, Balance, Taste, & Smell (3rd ed: Part I; 4th ed: 6.1-6.4) • [Neuro]Scientist Spotlight Presentation 9: Hearing
Wed 10/19	Taste & Smell	• Reading: Hearing, Balance, Taste, & Smell (3rd ed: Part II; 4th ed: 6.5-6.6) • [Neuro]Scientist Spotlight Presentation 10: Taste
WEEK 9		
Mon 10/24	Vision	• Reading: Vision (**skip** anything center-surround/opponent process = 3rd ed: pp. 194-202, 208-210; 4th ed: pp. 222-228, 236-238) • [Neuro]Scientist Spotlight Presentation 11: Vision

Wed 10/26	**SENSATION & PERCEPTION LAB! Come to class ready to test out your senses!**	
WEEK 10		
Mon 10/31	**REVIEW SESSION: Come to class with questions!**	
Wed 11/02	**EXAM 2 (90 minutes, online, open-notes, due no later than 11:59pm, 10/31)**	
	MODULE 3: NEURAL CONTROL OF BEHAVIOR	
WEEK 11		
Mon 11/07	Thermoregulation & Fluid Balance	• Reading: Homeostasis (3rd ed: Parts I & II; 4th ed: 9.1 & 9.2) • [Neuro]Scientist Spotlight Presentation 12: Thirst
Wed 11/06	Food Intake & Energy Balance	• Reading: Homeostasis (3rd ed, Part III; 4th ed, 9.3-9.5) • [Neuro]Scientist Spotlight Presentation 13: Food Intake
WEEK 12		
Mon 11/14	Biological Rhythms & Sleep	• Reading: Biological Rhythms and Sleep • [Neuro]Scientist Spotlight Presentation 14: Sleep
Wed 11/16	Emotions & Stress	• Reading: Emotions, Aggression, & Stress (**skip** aggression- 3rd ed: Part II; 4th ed 11.3) • [Neuro]Scientist Spotlight Presentation 15: Stress
WEEK 13		
Mon 11/21	Schizophrenia	• Reading: Psychopathology (3rd ed: Part I; 4th ed: 12.1) • [Neuro]Scientist Spotlight Presentation 16: Schizophrenia
Wed 11/23	**Thanksgiving Break – No Class!**	
WEEK 14		
Mon 11/28	Depression & Anxiety	• Reading: Psychopathology (3rd ed: Parts II & III; 4th ed: 12.2 & 12.3) • [Neuro]Scientist Spotlight Presentation 17: PTSD
Wed 11/30	Learning & Memory	• Reading: Memory & Learning (if you have the 3rd ed, skip "Development of the Brain") • [Neuro]Scientist Spotlight Presentation 18: Long-Term Potentiation
WEEK 15		
Mon 12/05	**REVIEW SESSION: Come to class with questions!**	
Wed 12/07	**EXAM 3 (90 minutes, online, open-notes, due no later than 11:59pm, 12/07)**	
FINALS WEEK		
Thurs 12/15	**FINAL REFLECTION PAPER DUE by 11:59PM, 12/15**	

******NOTE:** There are some differences in chapter organization between the 3rd & 4th edition. To avoid confusion, I have provided page numbers or chapter/section names when giving the reading assignments.****

A more detailed version of the semester schedule will be maintained on the onCourse class website.

Please note: This syllabus and the semester schedule are subject to change 1) in the event of unforeseen circumstances, 2) according to class interest and time, or 3) as deemed necessary by the instructor. Any changes will be announced in class and posted on the OnCourse site.