Attention!

This is a representative syllabus.

The syllabus for the course when you enroll may be different.

Use the syllabus provided by your instructor for the most up-to-date information. Please refer to your instructor for more information for the specific requirements for a given semester.

Feel free to contact the Psychology Advising Office for any questions regarding psychology courses either by email (psychadvising@osu.edu) or phone (614.292.5750).

Thank you!
COURSE OVERVIEW

Cognitive Neuroscience is a rapidly expanding scientific field that probes classical questions of human cognitive psychology via a broad array of cutting-edge methodological approaches, which include but are not limited to brain imaging (e.g., functional MRI and electroencephalography), lesion studies, single-cell recording, and examinations of brain injuries and other neurological disorders. This course will survey the results of these approaches, which have thus far generated fundamental insights about perception, object recognition, attention, memory, and many other cognitive processes.

ANTICIPATED OUTCOMES

By the end of this course, students should expect to achieve success in the following:

1. Acquire greater knowledge about cognitive processes and neural functioning
2. Understand methods used to study cognitive neuroscience and the pros/cons of each type of method
3. Understand how to evaluate different empirical findings
4. Be able to write effectively about cognitive neuroscience
5. Relate what we learned in class to everyday life
6. Use effective communication and interaction skills with people of diverse abilities, backgrounds and cultural perspectives (APA 4.1)
7. Demonstrate self-regulation skills, such as time management, self-assessment, and responsiveness to feedback (APA 5.2)

Further, it is my hope that you all leave the course with a sense of wonder and excitement about the mental and biological processes that underlie our human existence!

PREREQUISITES

PSYC 1100 or 1100H

COURSE DELIVERY METHOD
This course will be delivered in person, with some enhancements:

**Video Recording**  I will aim to use Carmen Zoom to record my lectures during class. While it will not be possible for students to watch the lectures synchronously from home, the lectures will be posted online for you to review later.

**Chat Thread**  I love it when students raise their hands in class to ask questions. Sometimes, though, it feels easier to just drop a comment in a chat thread, which many of us realized during virtual synchronous courses last year. So, we’ll make use of the Canvas chat app during class time, to share questions, comments, etc. I’ll be keeping an eye on these and will respond just as I will for raised hands.

**READINGS**


*Note: The 4th edition is very similar to the 5th edition, and you can often find used versions for significantly less money. Choose the latest version of the textbook that you’re comfortable buying.*

**Articles**  From the primary research literature, posted on CANVAS.

**CREDIT HOURS AND WORK EXPECTATIONS**

This is a 3-credit-hour course. According to Ohio State policy, students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

**TASKS**

**Exams (60%)**: There will be three exams, including two midterms (each 20% of the final grade) and a final (also 20% of the final grade). The final exam will be cumulative. Each of these exams will be comprised of multiple choice questions and will be administered in person.

**Reading-based Discussion Boards (8%)** : We will spend a portion of 4 lectures in class going over articles from the primary research literature (each are listed in the syllabus). These articles will sometimes be challenging, and discussion greatly facilitates comprehension. Therefore, we will activate the discussion board for our class on Canvas. The format for these discussions is very informal, and all we ask is that each student participate to some extent. You must post at least two *substantive* questions or comments in these discussion groups prior to the class meeting listed in the syllabus. You can start new threads with a comment, but at least one of your two comments must be a response to another thread. This facilitates interaction and debate. **The cutoff time is 6pm the day before the class meeting** (this is so
that I can read your comments and integrate them into my slides for the class meeting). **It’s best to post 1-2 days before the cutoff so that not everyone is posting at the last minute.** Substantive participation in each discussion will earn you full credit per article discussed.

**Topical reflections (7%):** On 5-7 occasions, we’ll ask you to reflect on a topical question that may relate to the lecture material. For example, we might ask what you would want to use a brain implant for. For these, you will just need to post one comment on the discussion board thread, and you won’t be required to respond to other peoples’ comments, although we encourage you to do so. Since we won’t be further discussing these in class, the dates will be more flexible, and you will have two weeks to complete them.

**Reaction papers (15%):** You will be asked to submit reaction papers to the 2 of the 4 articles of your choosing that are listed in the syllabus (not to chapters of the textbook). These papers should be 1-2 pages (double-spaced), and they should: 1) summarize the article, 2) describe potential drawbacks, 3) provide recommendations for how to address the criticisms you have raised. **Reaction papers must be uploaded to Canvas (specific instructions will follow) before they are discussed in class, before 10:45 am.** No exceptions!

**Quizzes on Readings (10%):** Before covering each of the 4 articles during class time, brief multiple choice quizzes will be administered. **Students must complete these quizzes on Canvas before the class meeting discussing the article, before 10:45am. Again, no exceptions!** The goal of these quizzes is to test your basic knowledge of the article. Really, these quizzes are designed so that you can score highly if you made a good effort to read the article and follow the discussions on Canvas, even if you didn’t understand the finer details. Focus on the following questions if you want to do well: 1) what was the general question the authors attempted to address? 2) what cognitive neuroscience technique did they use? 3) roughly how many participants were included in the study? 4) how many experiments were there? 5) what kind of task did the participants have to do? 6) what general conclusions did the authors reach? Participation in the online discussion board will greatly enhance your ability to perform well on the quizzes. Grades for these quizzes will be on a 4-point scale, with one point for each correct answer.

As a note: Ultimately, the exams will ask deeper questions about the articles. We’ll prepare for these questions when I cover the articles during class time. Following each class in which an article is covered, we will produce a list of 4-5 “What We Learned” (WWL) points from the article. These WWL points will be posted on Canvas and will form the basis for the exam questions on the articles.

**Course grades will be determined as follows:**

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<th>Percentage Range</th>
<th>Grade</th>
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<tr>
<td>93-100%</td>
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<td>90-92.99%</td>
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<td>83-86.99%</td>
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<td>80-82.99%</td>
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**ACADEMIC INTEGRITY**
All suspected cases of academic misconduct, including cheating and plagiarism will, according to university rules, be submitted to the committee on academic misconduct and may lead to a failing grade in the course or dismissal from the university. Ignorance is not an excuse!

“It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct at http://studentconduct.osu.edu”

**Computerized Plagiarism Detection:** Please be aware that every assignment you turn in on Canvas will be compared via advanced software to a vast database of past assignments and those of your current peers. **If you plagiarize, the detection software will alert us!** See example from Class 1 lecture slides.

**Messaging Apps, Online Postings, Social Media:** In recent years, an alarming number of students have been caught up in misconduct cases via messaging apps, online postings and social media. A typical example is that students join a Slack channel and share exam or quiz questions. I enthusiastically encourage students to study together, but please make sure you maintain the code of conduct in these spaces.

**ACCOMODATIONS FOR STUDENTS WITH DISABILITIES**

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. **SLDS contact information:** slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

**ACCESSIBILITY OF COURSE TECHNOLOGY**

This online course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with me.

- Canvas accessibility ([go.osu.edu/canvas-accessibility](go.osu.edu/canvas-accessibility))
- Streaming audio and video
- CarmenZoom accessibility ([go.osu.edu/zoom-accessibility](go.osu.edu/zoom-accessibility))
- Collaborative course tools

**SEXUAL MISCONDUCT / RELATIONSHIP VIOLENCE**
Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

**ELECTRONIC DEVICES IN CLASS**

There is evidence that device use for purposes other than class (e.g., texting, web surfing) dramatically worsens performance for you and your neighbors (see lecture slides from Class 1). I believe that everyone should be able to choose whether to expose themselves to the negative consequences of electronic device usage, but I cannot permit people to distract others who come to class to focus on the lecture. As a result, I have developed these policies:

1. If you bring a laptop/tablet to class, please use it only for course-related purposes. Do not use it for web surfing or engaging in social media. Students using devices in a distracting way will first be asked to stop. If the use continues, the student will be asked to leave the classroom.
2. A text here and there is fine, but excessive texting in class will not be permitted. As above, students texting a lot will be asked to stop. Then, if the use continues, they will be asked to leave the classroom.

**FACE MASK REQUIREMENT**

“Effective August 2, 2021, students, faculty, staff and visitors to all Ohio State campuses and medical facilities are required to wear masks indoors, regardless of their vaccination status.” [https://safeandhealthy.osu.edu/personal-protection-hygiene](https://safeandhealthy.osu.edu/personal-protection-hygiene)

Students must wear masks covering their nose and mouth during class time. As a parent with young children who cannot be vaccinated, I take this policy very seriously, and there will be no exceptions to the OSU policy allowed. OSU’s policy for noncompliance is as follows ([https://safeandhealthy.osu.edu/accountability](https://safeandhealthy.osu.edu/accountability)):

A student and/or student organization will be referred for disciplinary action where the student and/or student organization’s behavior endangers the health or safety of campus community members, on or off campus, and/or fails to comply with the directives outlined in the Safe Campus Requirements.

- **During an incident in which a student is not adhering, the student should first be asked to comply (e.g., to wear a mask). If this does not resolve the situation, the student should be reminded about safe and healthy requirements. If the student continues to refuse, the student should be told to leave the location and not to return until they are prepared to follow the requirements.**

- **For all situations, except those students who quickly comply when reminded, the incident should be reported to the Office of Student Life Student Conduct for potential disciplinary action and to assist with appropriate tracking. Even if the student's name is unknown, a**
report to Student Conduct should be made to assist the university in evaluating adherence efforts; however, it should be acknowledged that Student Conduct will be unable to take disciplinary action without identifying information.

OTHER COURSE POLICIES

Tone and civility: Let’s maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm is not always perceived as intended online. Please do not engage other students with negative feedback about them as a person and remember to always rely on the data and to focus on the argument being made, not the person making it. Remember to adhere to the Student Code of Conduct at all times.

What is said in class stays in class: Please do not share any course materials or student contributions outside of this class without clear written permission from the student involved AND the instructor.

COMMITMENT TO A DIVERSE AND INCLUSIVE LEARNING ENVIRONMENT

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach their own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

YOUR MENTAL HEALTH

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, on-demand resources are available at go.osu.edu/ccsondemand. You can reach an on-call counselor when CCS is closed at 614-292-5766, and 24-hour emergency help is also available through the 24/7 National Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org. The Ohio State Wellness app is also a great resource available at go.osu.edu/wellnessapp.

CLASS SCHEDULE (subject to change)
Week 1
8/24 Welcome/Introduction
8/26 Lecture: History of Cognitive Neuroscience
8/27 DUE by Friday: First-week questionnaire
Chapter 1: A Brief History of Cognitive Neuroscience

Week 2
8/31 Lecture: History of Cognitive Neuroscience (cont’d)
9/2 Lecture: Neuroanatomy
Chapter 2: Structure and Function of the Nervous System

Week 3
9/7 Lecture: Cognitive Neuroscience Methods: Behavior/Modeling
9/9 Lecture: Cognitive Neuroscience Methods: Animal methods & Structural Imaging
Chapter 3: Methods of Cognitive Neuroscience

Week 4
9/14 Lecture: Cognitive Neuroscience Methods
9/15 DUE Wednesday by 6pm: Reading-based discussion board participation
9/16 Review of McCabe & Castel (2008)
   Lecture: Cognitive Neuroscience Methods (cont’d)
   Quiz on McCabe article must be completed no later than 10:45am
   Response papers for the McCabe article must be submitted no later than 10:45am

Week 5
9/21 Lecture: Cognitive Neuroscience Methods: Neurology/Neuropsychology
9/23 Lecture: Cognitive Neuroscience Methods: Functional Imaging I

Week 6
9/28 Exam 1
9/30 Lecture: Cognitive Neuroscience Methods: Functional Imaging II & Methods wrap up

Week 7
10/5 Lecture: Object Processing
10/6 DUE Wednesday by 6pm: Reading-based discussion board participation
10/7 Review of Kanwisher et al. (1997)
   Lecture: Catch-up
   Quiz on Kanwisher article must be completed no later than 10:45am
   Response papers for Kanwisher article must be submitted no later than 10:45am

Week 8
10/12 Lecture: Action
10/14 No class – Fall Break
Chapter 8: Action

Week 9
10/19 Lecture: Action (cont’d)
10/21 Lecture: Learning & Memory (cont’d)

Chapter 9: Memory

Week 10:
10/26 Lecture: Learning & Memory (cont’d)
10/27 **DUE Wednesday by 6pm: Reading-based discussion board participation**
10/28 Review of Greene et al. (2001)
Lecture: Emotion

**Quiz on Greene article must be completed no later than 10:45am**
**Response papers for the Greene article must be submitted no later than 10:45am**


Chapter 10: Emotion

Week 11
11/2 Exam 2
11/4 Lecture: Emotion (cont’d)

Week 12
11/9 Lecture: Language

11/11 **No Class -- Veteran’s Day (observed)**

Chapter 11: Language

Week 13
11/16 Lecture: Attention (cont’d)
11/17 **DUE Wednesday by 6pm: Reading-based discussion board participation**
Lecture: Cognitive Control

**Quiz on O’Craven article must be completed no later than 10:45am**
**Response papers for O’Craven article must be submitted no later than 10:45am**


Chapter 7: Attention

Week 14
11/23 Lecture: Cognitive Control

11/25 **Thanksgiving Break**

Chapter 12: Cognitive Control

Week 15
11/30 Lecture: Social Cognition
12/3 Lecture: Social Cognition

Catch up / Wrap up / Conclusions
Cumulative Final Exam:
The official date/time for the final exam will be listed in Buckeyelink by mid-semester. As far as I can tell, it will be as follows (but we will confirm when the official time is posted):
Monday, December 13th, 12:00pm-1:45pm