

## Term Information

Effective Term Summer 2021  
*Previous Value* Summer 2012

## Course Change Information

### What change is being proposed? (If more than one, what changes are being proposed?)

Addition of a permanent online section

### What is the rationale for the proposed change(s)?

It is clear that student learning can be significantly positively impacted by traditional, in person modalities, as well as in distance formats. Our department is large, and we wish to be able to offer multiple sections of our undergraduate curriculum in a variety of modalities to provide the best range of options for our students and faculty moving forward. For students, it can be more than just a matter of convenience - an online class may allow (for example) a working parent to finish their degree in a flexible way or a student with significant health concerns to continue to engage in coursework. Such flexibility also allows our excellent faculty with significant health concerns to continue to positively impact student learning in their area of expertise by teaching remotely. It is best for all members of the university to have the flexibility to offer sections in a variety of settings.

### What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

None

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

## General Information

Course Bulletin Listing/Subject Area Psychology  
Fiscal Unit/Academic Org Psychology - D0766  
College/Academic Group Arts and Sciences  
Level/Career Undergraduate  
Course Number/Catalog 3513  
Course Title Introduction to Cognitive Neuroscience  
Transcript Abbreviation Intro Cog Neurosci  
Course Description Examination of the neuroscientific approach to the study of cognition; primary focus on the psychobiology of memory, attention, language, and spatial orientation.  
Semester Credit Hours/Units Fixed: 3

## Offering Information

Length Of Course 14 Week, 12 Week, 8 Week, 7 Week, 6 Week, 4 Week  
Flexibly Scheduled Course Never  
Does any section of this course have a distance education component? Yes  
Is any section of the course offered 100% at a distance  
*Previous Value* No  
Grading Basis Letter Grade  
Repeatable No  
Course Components Lecture

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Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus, Lima, Mansfield, Marion, Newark

## Prerequisites and Exclusions

Prerequisites/Corequisites	Prereq: 1100 or 1100H.
<a href="#">Previous Value</a>	<a href="#">Prereq: 1100 (100) or 1100H (100H).</a>
Exclusions	
<a href="#">Previous Value</a>	Not open to students with credit for 513.
Electronically Enforced	Yes
<a href="#">Previous Value</a>	<b>No</b>

## Cross-Listings

Cross-Listings

## Subject/CIP Code

Subject/CIP Code	42.2706
Subsidy Level	Baccalaureate Course
Intended Rank	Freshman, Sophomore

## Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

## Course Details

Course goals or learning objectives/outcomes	<ul style="list-style-type: none"><li>• Students will be able to have greater knowledge about cognitive processes and neural functioning</li><li>• Students will be able to understand how we can study cognitive neuroscience and the pros/cons of each type of method</li><li>• Students will be able to understand how to evaluate different empirical findings</li></ul>
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[Previous Value](#)

**Content Topic List**

- Mind and brain
- Motor control
- Vision, hearing, and speech
- Attention
- Learning and memory
- Thinking and problem solving
- Emotional responses
- Executive function
- Cognition across the lifespan
- Social cognition
- Consciousness

**Sought Concurrence**

No

**Attachments**

- PSYCHOLOGY 3513\_online syllabus proposal.docx: proposed syllabus  
*(Syllabus. Owner: Paulsen,Alisa Marie)*
- PSYCH 3513 technical review.docx: ASC technical review  
*(Other Supporting Documentation. Owner: Paulsen,Alisa Marie)*
- Psych 3513 syllabus.pdf: current syllabus  
*(Syllabus. Owner: Paulsen,Alisa Marie)*

**Comments**

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Paulsen,Alisa Marie	01/13/2021 12:14 PM	Submitted for Approval
Approved	Paulsen,Alisa Marie	01/13/2021 12:15 PM	Unit Approval
Approved	Haddad,Deborah Moore	01/13/2021 04:33 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Oldroyd,Shelby Quinn Hilty,Michael Vankeerbergen,Bernadette Chantal	01/13/2021 04:33 PM	ASCCAO Approval



# SYLLABUS

# PSYCHOLOGY 3513

**Introduction to Cognitive Neuroscience**  
Term XXXX – Online – Class #:

## COURSE OVERVIEW

### Instructor

Instructor: Varies, specific section instructor will provide to students

Email address: Varies, specific section instructor will provide to students

Phone number: Varies, specific section instructor will provide to students

Office hours: Varies, specific section instructor will provide to students

### Course description

Cognitive Neuroscience is a rapidly growing field that sits at the intersection of psychology and neuroscience, fusing studies of human cognition and behavior with an interest in understanding the inner workings of the brain. The goal of this course is to provide an introduction to this fascinating field. Students will be introduced to the wide array of cutting-edge methodological techniques used in cognitive neuroscience, including neuroimaging (e.g., fMRI, EEG, TMS), patient studies, and behavioral approaches. We will explore how these approaches have enriched our understanding of human cognition, examining topics such as perception, object recognition, attention, memory, language, and social cognition. My hope is that you will all leave this course with (1) greater knowledge about cognitive processes and neural functioning; (2) an understanding of how we can study cognitive neuroscience, and (3) a sense of wonder and excitement about these fascinating processes that underlie our human existence.

### Course learning outcomes

By the end of this course, students should successfully be able to:

1. Have greater knowledge about cognitive processes and neural functioning
2. Understand how we can study cognitive neuroscience and the pros/cons of each type of method
3. Understand how to evaluate different empirical findings
4. Have a sense of wonder and excitement about the processes that underlie our human existence
5. Be able to write effectively about cognitive neuroscience and 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)

## HOW THIS COURSE WORKS

### Mode of delivery:

- Varied. Some instructors will hold synchronous sessions within the time/day pattern assigned to this course by the registrar and will clearly indicate this to their students through Carmen, their finalized syllabus, and emails. Other instructors will be doing their courses entirely asynchronously and this will similarly be communicated clearly to students.
- 100% online delivery.
- There are many opportunities for synchronous and asynchronous interaction with instructors and each other.
- All synchronous sessions will be held within the original time/day pattern of this course (times vary for each section), though we will not use all of those days, nor all of the time each time we meet.
- All synchronous work can be made up in an asynchronous fashion, if you are unable to attend.

**Pace of online activities:** This course is divided into **topic modules** that are released ahead of time. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame. Students should expect to engage online with instructor and/or classmates at least once per week via a variety of activities (e.g. discussion forums, quizzes, etc.).

**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**.

**Attendance and participation requirements:** Because this is an online course, your attendance is based on your online activity and participation. The following is a summary of everyone's expected participation:

- **Participating in online activities for attendance: ONE TO TWO DEADLINES PER WEEK OVER MULTIPLE GRADING CATEGORIES**  
You are expected to log in to the course in Carmen multiple times each week. If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.
- **Office hours and live sessions: AS SCHEDULED**  
Several live, scheduled events for the course, including office hours, are optional. There may be some required online events. However, alternative accommodations will be considered on a case-by-case basis. There are many opportunities for synchronous and asynchronous interaction with instructional staff and each other.

## COURSE MATERIALS AND TECHNOLOGIES

### Textbooks

#### REQUIRED

Author: Gazzaniga, M. S., Ivry, R. B., & Mangun, G. R.

ISBN: 0393603172

Publication Date: 2018

Publisher: Norton, W. W. & Company, Inc.

Title: Cognitive Neuroscience: The Biology of the Mind (5th ed.).

### Other fees or requirements

- Not applicable for this course.

## Course technology

### TECHNOLOGY SUPPORT

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at [ocio.osu.edu/help/hours](https://ocio.osu.edu/help/hours), and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** [ocio.osu.edu/help](https://ocio.osu.edu/help)
- **Phone:** 614-688-4357(HELP)
- **Email:** [servicedesk@osu.edu](mailto:servicedesk@osu.edu)
- **TDD:** 614-688-8743

### TECHNOLOGY SKILLS NEEDED FOR THIS COURSE

- Basic computer and web-browsing skills
- Navigating Carmen ([go.osu.edu/canvasstudent](https://go.osu.edu/canvasstudent))
- CarmenZoom virtual meetings ([go.osu.edu/zoom-meetings](https://go.osu.edu/zoom-meetings))
- Recording a slide presentation with audio narration ([go.osu.edu/video-assignment-guide](https://go.osu.edu/video-assignment-guide))
- Recording, editing, and uploading video ([go.osu.edu/video-assignment-guide](https://go.osu.edu/video-assignment-guide))

### REQUIRED EQUIPMENT

- Computer: current Mac (MacOs) or PC (Windows 10) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed and tested
- Microphone: built-in laptop or tablet mic or external microphone
- Other: a mobile device (smartphone or tablet) to use for BuckeyePass authentication

### REQUIRED SOFTWARE

- Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Full instructions for downloading and installation can be found at [go.osu.edu/office365help](https://go.osu.edu/office365help).
- **Tophat:** All Ohio State students have free access to Tophat, a classroom response system that can be used from all types of mobile phones, computers, and tablets. Click [here](#) for help getting started with Tophat.

### CARMEN ACCESS

You will need to use BuckeyePass ([buckeyepass.osu.edu](https://buckeyepass.osu.edu)) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions ([go.osu.edu/add-device](https://go.osu.edu/add-device)).
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new**

**codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.

- Download the Duo Mobile application ([go.osu.edu/install-duo](http://go.osu.edu/install-duo)) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357(HELP) and IT support staff will work out a solution with you.

## GRADING AND FACULTY RESPONSE

### How your grade is calculated (may vary by instructor)

ASSIGNMENT CATEGORY	POINTS
Exams	~50
Response papers	~20
Carmen exercises/quizzes	~30
<b><u>Total</u></b>	<b>100</b>

See course schedule below for due dates.

### Descriptions of major course assignments (may vary by instructor)

#### EXAMS

**Description:** There will be several in-class midterm and/or final exams. Exam questions will be multiple choice or short answer. The final will be cumulative. Your lowest exam grade will be automatically dropped.

**Academic integrity and collaboration:** Some instructors may allow open-note exams, while others will use closed-note synchronous exams. This will be clearly indicated to students through Carmen, their finalized syllabus, and emails.

#### QUIZZES



**Description:** There may be quizzes for each chapter/topic area covered. If included in the course, quizzes will take place via Carmen, with the scheduled due dates listed in the Carmen course.

**Academic integrity and collaboration:** You may use notes during the quizzes but because it is timed, you will not have time to look up everything. Your quiz must be your own individual work, should reflect your unique thoughts, and be taken by you and not shared with anyone else (in the class or otherwise).

## RESPONSE PAPER

**Description:** Responses papers and/or projects will be required. The number and topics will vary by instructor, and will be clearly indicated to students through Carmen, their finalized syllabus, and emails. Rubrics and expectations will be clearly provided.

Rubric: For full credit, you must do all 3: a) mention neural structures, b) tie these neural structures to cognitive processes, and c) talk about how accurate your selection is (if fiction) or what sort of insight it gives you into the topic (if nonfiction). For example, if your movie is about a fictional patient who is going through Alzheimer's, talk about the different memory systems (and which one is affected by Alzheimer's) and also talk about the brain regions that are affected by Alzheimer's and what those regions normally do. Then talk about whether the movie accurately portrayed Alzheimer's by discussing how it relates to what we talked about in class (e.g. patients and their symptoms that we talked about in class).

**Academic integrity and collaboration:** You may discuss all pieces of the assignments and materials with other students and instructional staff as much as you like. Your assignment submissions must be your own individual work, should reflect your unique thoughts, and be written in your own words. With some assignments it will be appropriate to incorporate ideas from journal articles or other sources. Any time you use ideas from another source – even if not quoting them verbatim – you need to cite the original source of the idea. The instructor will convey the appropriate reference formatting style in the assignment instructions. Reusing past work: In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.

## CARMEN ASSIGNMENTS

**Description:** Short assignments will be posted on Carmen throughout the course. These will typically be survey or short-answer format, and they will be brief (a few questions each). The questions may involve what was discussed in class that day or week. The assignments may also involve posting on a chapter/topic discussion board.

**Academic integrity and collaboration:** You may discuss your ideas about the prompts with other students and instructional staff as much as you like. Your assignment submissions must be your own individual work, should reflect your unique thoughts, and be written in your own words.

## Late assignments

- Late submissions may not be accepted by some instructors. Other instructors may apply grade penalties for late assignments.
- Due dates and times will be explicitly given in Carmen.

## Grading scale

93–100: A  
90–92.9: A-  
87–89.9: B+  
83–86.9: B  
80–82.9: B-  
77–79.9: C+  
73–76.9: C  
70–72.9: C-  
67–69.9: D+  
60–66.9: D  
Below 60: E

## Instructor feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

- **Grading and feedback:** For large weekly assignments, you can generally expect feedback within **7 days**. However, this time may take longer for larger classes.
- **Email:** I will reply to emails within **48 hours on weekdays when class is in session at the university**.
- **Discussion board:** I will check and reply to messages in the discussion boards every **48 hours on school days (M-F)**.

## OTHER COURSE POLICIES

### Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to participate in class activities/discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. A more conversational tone is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across 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 OSU Student Code of Conduct at all times - <https://studentconduct.osu.edu/>
- **Citing your sources:** For your contributions in this course, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)
- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.
- **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.

### Zoom/Videoconferencing Guidelines

Some of our interactions in this class will occur through Zoom videoconferencing. Because this mode of discussion has benefits and challenges that differ from in-person class sessions, I want to share my expectations for how we will meet and communicate:

- **Technical Issues:** If you encounter a technical issue with Zoom during a session, first make sure you are using the latest version of Zoom. Next, contact the IT Service Desk at <http://go.osu.edu/it> or 614-688-4357(HELP). If issues continue, contact me after the session to learn how to make up for the missed content either via a recording or other means. I will not be able to address technical issues during a live session.
- **Preparation:** Come to the session having completed any readings or pre-work and be ready to have open, civil, and supportive discussions in video and chat spaces. I ask that you update your Zoom profile with your preferred name and add a picture with your face.
- **Participation:** At the start of our sessions, I'll share specific expectations for how to use the chat, how to interact, and how to raise questions or concerns as we go. If you

are unsure about expectations or are unsure about raising a question, please follow up with me afterward to make sure your questions are answered. Plan to be present during the entire class session as much as you are able. For some activities, I may ask you to share your faces on camera so that we can see each other and connect. Please feel encouraged to use a non-distracting virtual background. Many students and instructors prefer not to share their remote spaces for a variety of reasons. Mute your microphone when others are talking to minimize background noise in the meeting.

- **Recordings:** I will be recording our meetings for the benefit of students who may need to be absent. These links will only be shared with students in our class. Please do not share any course materials or student contributions outside of this class without clear written permission from the student(s) involved **AND** the instructor.

## Academic integrity policy

See **Descriptions of major course assignments**, above, for my specific guidelines about collaboration and academic integrity in the context of this online class.

### OHIO STATE'S ACADEMIC INTEGRITY POLICY

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the university's *Code of Student Conduct* ([studentconduct.osu.edu](http://studentconduct.osu.edu)), and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the university's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the university or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the university's *Code of Student Conduct* is never considered an excuse for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

**If I suspect that a student has committed academic misconduct in this course, I am obligated by university rules to report my suspicions to the Committee on Academic Misconduct.** If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

**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 <http://studentlife.osu.edu/csc/>.**

Other sources of information on academic misconduct (integrity) to which you can refer include:

- Committee on Academic Misconduct web page ([go.osu.edu/coam](http://go.osu.edu/coam))
- Ten Suggestions for Preserving Academic Integrity ([go.osu.edu/ten-suggestions](http://go.osu.edu/ten-suggestions))
- Eight Cardinal Rules of Academic Integrity ([go.osu.edu/cardinal-rules](http://go.osu.edu/cardinal-rules))

## **Copyright for instructional materials**

The materials used in connection with this course may be subject to copyright protection and are **only** for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

## **Statement on Title IX**

All students and employees at Ohio State have the right to work and learn in an environment free from harassment and discrimination based on sex or gender, and the university can arrange interim measures, provide support resources, and explain investigation options, including referral to confidential resources.

If you or someone you know has been harassed or discriminated against based on your sex or gender, including sexual harassment, sexual assault, relationship violence, stalking, or sexual exploitation, you may find information about your rights and options at [titleix.osu.edu](http://titleix.osu.edu) or by contacting the Ohio State Title IX Coordinator at [titleix@osu.edu](mailto:titleix@osu.edu). Title IX is part of the Office of Institutional Equity (OIE) at Ohio State, which responds to all bias-motivated incidents of harassment and discrimination, such as race, religion, national origin and disability. For more information on OIE, visit [equity.osu.edu](http://equity.osu.edu) or email [equity@osu.edu](mailto:equity@osu.edu).

## **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 his or her 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](https://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](https://suicidepreventionlifeline.org). The Ohio State Wellness app is also a great resource available at [go.osu.edu/wellnessapp](https://go.osu.edu/wellnessapp).

## Health and Safety requirements

All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>), which includes *following university mask policies* and maintaining a safe physical distance at all times. Non-compliance will be warned first and disciplinary actions will be taken for repeated offenses.

## Dennis Learning Center

The Dennis Learning Center (<https://dennislearningcenter.osu.edu/>), located within the Younkin success center, has many online and in-person resources available for improving study skills or dealing with test anxiety.

## Student Advocacy

The Student Advocacy Center is an office on campus that works with students who have been significantly ill or experienced other traumatic personal issues to minimize the impact these circumstances may have on their academics. They can provide you with resources

to cope with your situation and they can also contact instructors to provide documentation on your behalf. Phone: 614-292-1111, web address: <http://advocacy.osu.edu/>

## Advising

This link has an overview and contact information for the academic services offered on the OSU Columbus campus: <https://advising.osu.edu/>

## Student Services

Manage many of the electronic services on campus: <https://contactbuckeyelink.osu.edu/>

# ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

## Requesting accommodations

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](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](https://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.

### SLDS COVID-19 Addition

In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's [request process](#), managed by Student Life Disability Services. 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](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.

## Accessibility of course technology & materials

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 or course materials, please request accommodations with me.

- Canvas accessibility ([go.osu.edu/canvas-accessibility](http://go.osu.edu/canvas-accessibility))
- CarmenZoom accessibility ([go.osu.edu/zoom-accessibility](http://go.osu.edu/zoom-accessibility))

## SAMPLE COURSE SCHEDULE

(Course schedules will vary by instructor; see Carmen for a full schedule of topics and due dates.)

Week	Dates	Topics, Readings, Assignments, Deadlines
1	8/24-8/28	<u>Ch 1: A Brief History of Cognitive Neuroscience</u> <i>Introduction, Syllabus, &amp; Historical Perspective</i>
2	8/31-9/4	<u>Ch 2: Structure and Function of the Nervous System</u> <i>Neuronal Signaling, Synaptic Transmission, Structural Overview, Cerebral Cortex, Development</i>
3	9/7-9/11	<u>Ch 3: Methods of Cognitive Neuroscience</u> <i>Behavioral Methods, Lesion Studies, Perturbation Methods, Structural Analysis, Neural Function, Neuro-Imaging, Computational Methods</i>
4	9/14-9/18	<u>Ch 5: Sensation and Perception</u> <i>Audition, Olfaction, Gustation, Somatosensation, Vision, Visual Deficits</i>
		<i>Assignment 1 due at 11:59pm on Monday 9/14</i>
5	9/21-9/25	<i>Catch Up &amp; Review (Chapters 1,2,3,&amp; 5)</i>
		Exam 1 (Online) 2-day window : 9/25 @ 4pm – 9/27 @11:59pm
6	9/28-10/2	<u>Ch 4: Hemispheric Specialization</u> <i>Anatomy, Splitting the Brain, Hemispheric Specialization, Evolutionary Basis, Split-Brain Research</i>
7	10/5-10/9	<u>Ch 6: Object Recognition</u> <i>“What” and “Where” pathways, Computational Issues, Face Recognition</i>
8	10/12-10/16	<u>Ch 7: Attention</u> <i>Anatomy &amp; Neurophysiology, Models, Neural Mechanisms, Attentional Cortical</i>



		<i>Networks</i>
<b>9</b>	<b>10/19-10/23</b>	<u>Ch 8: Motor Action</u> <i>Motor Structures, Computational Issues, Physiology, Action Planning and Goals, Brain-Machine Interface, Motor Learning</i>
		<i>Assignment 2 due at 11:59pm on Monday 10/26</i>
<b>10</b>	<b>10/26-10/30</b>	<i>Catch Up &amp; Review (Chapters 4,6,7, &amp; 8)</i>
		<b>Exam 2 (Online)</b> 2-day window : 10.30 @ 4pm – 11/1 @11:59pm
<b>11</b>	<b>11/2-11/6</b>	<u>Ch 9: Memory</u> <i>Amnesia, Mechanisms, MTL, Imaging, Consolidation, Cellular Basis of Learning and Memory</i>
<b>12</b>	<b>11/9-11/13</b>	<u>Ch 10: Emotion</u> <i>Categorization, Theories, Amygdala, Interactions, Cognitive Processes &amp; Control</i>
<b>13</b>	<b>11/16-11/20</b>	<u>Ch 11: Language</u> <i>Anatomy, Lesion Studies, Comprehension, Spoken &amp; Written Language, Neural Models</i>
<b>14</b>	<b>11/23-11/27</b>	<u>Ch 12: Cognitive Control</u> <i>Anatomy, Deficits, Goal-Oriented Behavior, Decision-Making, Goal Planning</i>
<b>15</b>	<b>11/30 - 12/4</b>	<i>Catch Up &amp; Review (Chapters 9,10,11, &amp; 12)</i>
		<i>Assignment 3 due at 11:59pm on Monday 12/4</i>
<b>FINALSWEEK</b>	<b>12/7-12/11</b>	<b>FINAL EXAM</b> Available 12/7 – 12/10 (4-day window)



# PSYCH 3513—Introduction to Cognitive Neuroscience

## (SECTION 28214)



### Instructor Information:

Name: Brian Siefke  
 Office Location: Lazenby 221C  
 Office Hours: by appointment (e-mail)  
 Email: [Siefke.4@osu.edu](mailto:Siefke.4@osu.edu)  
 (\*\*put "SECTION 28214" in subject line!)

### Course Information:

Term: Spring 2020  
 Time: Mon/Wed/Fr : 9:10am-10:05am  
 Class Location: Lazenby Hall 021  
 Section number: 28214  
 Course website: <https://carmen.osu.edu>

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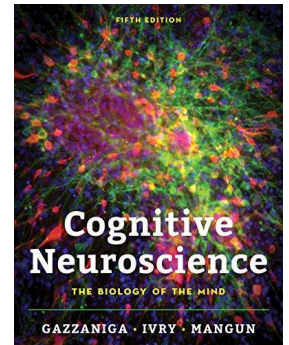
### WELCOME TO COGNITIVE NEUROSCIENCE!

### **REQUIRED TEXT:**

PSYCH 3513 has one required textbook:

***Cognitive Neuroscience: The Biology of the Mind (5<sup>th</sup> Ed.), by Gazzaniga, Ivry, & Mangun***

It is extremely important for students to have a textbook for this course. Students are able to buy the book at the University Bookstores. The students are not required to use the University Bookstore. If you can find the 5<sup>th</sup> edition cheaper from another source, you are free to do so.



### **CARMEN COURSE WEBSITE:**

All grades and assignments will be administered through the course website: <https://carmen.osu.edu>. Additional class handouts and other materials will be made available as well. Grades will be posted shortly after each due date.

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### **COURSE DESCRIPTION:**

Cognitive Neuroscience explores the means by which mental processes are produced and represented by circuits of neurons within the human nervous system. The primary course objective is to introduce terminology and concepts that will allow you to begin to understand how cognitive function arises from interactions between groups of neurons. Cognitive neuroscience overlaps many interdisciplinary fields, including psychology, medicine, biology, physics, radiology, computer sciences, philosophy, linguistics, mathematics, statistics, and many other fields of study. Experimental methods include: psychophysics, brain imaging, single-cell recording, and lesion studies, among others. Current theoretical methods include computational neuroscience and a variety of statistical and representational modeling techniques. This class will examine the basic structure of the nervous system, and survey current methods of inquiry. These methods will be studied in the context of a variety of different topics, including: object recognition, attention, motor control, decision making, learning, memory, social cognition, emotion, and free will.

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### **PREREQUISITES**

- PSYCH 1100 (100) or 1100H (100H).
- Not open to students with credit for PSYCH 5013.

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## INSTRUCTOR APPOINTMENTS AND E-MAIL CONTACT POLICY:

To accommodate my students, I do not hold “standard” office hours. Instead, I am happy to offer flexibly scheduled individual appointments during which we can discuss content, assignments, or grades. When sending an appointment request, please indicate the reason you wish to meet and a few times you are available. Also, I’m happy to discuss questions via e-mail, although I cannot discuss grades via e-mail. I care very much about my students and I take your e-mails very seriously, but I can’t always reply immediately due to other obligations. If you put “**SECTION 28214**” in the subject line, you can generally expect a response within 48 hours. Please keep this in mind – don’t wait to study for an exam until the day last day! ***I am here to help!***

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## CLASSROOM POLICIES:

**No cellphones/laptops:** Current research indicates that using these devices does not add to a student’s learning and may actually even hurt the process. ***I require that all phones be turned off or on “silent mode” and that any electronic communication devices are not used during class. Communicating during class with outside persons via phone or e-mail or text is distracting, rude to your peers, and insulting to me personally. I reserve the right to ask students to leave the classroom or turn off or put away any devices that are distracting your attention or my attention, or the attention of other students.***

Students do not actually need these devices during lecture anyhow, as all class materials are provided on the class website. I recommend taking notes with pen/pencil and paper, as this form of interaction with material actually promotes increased learning. Students who require assistive technology as approved by Student Life Disability Services will be fully accommodated, of course.

**Attendance:** I do not police attendance, and do not require excuses for missing! However, if you must miss a class, you will still be responsible for the information covered that day. You can get all materials from the class website, or you can obtain lecture notes from a classmate. You directly benefit from attendance because during lecture I will interact directly with the ability level of the present students on skills and methods directly relevant to earning your grade.

**Leaving classroom:** If necessary, you may always exit the classroom for any reason, but I ask that you do so with respect to your classmates and to me, and with as little disruption as possible.

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## COURSE EXPECTATIONS:

### What you can expect from me:

- *Genuine Interest* in teaching, in helping you learn and engage the material, and in your success both inside and outside the classroom.
- *Availability* to address your questions and provide feedback as quickly and as thoroughly as possible. I will do my best to respond to your e-mails within 48 hours and encourage you to meet with me by appointment to address any questions or concerns you may have.
- *Preparation* for class including lectures, exam reviews, relevant demonstrations, activities, and media to support your learning.
- *Respect* for you, your questions, opinions, ideas, and goals.

### What I expect from you:

- *Come prepared:* First, this means come to class and come on time. Read the assigned chapters *before* class. **\*\*\*We will not have time to cover everything in class and exams are based on the book!** It is also important to check your OSU e-mail and Carmen regularly for important updates.
- *Engage and ask questions:* Be ready to participate and engage by asking questions, making comments, and thinking critically. This will make class a lot more fun and interesting for us all. If you do not understand something, odds are that several other people in the class are also confused. **DON’T BE SHY.** I want to help you understand the material and I love questions! Shy anyway? E-MAIL ME! I work for you!
- *Respect:* My classroom is a safe environment for everyone. While I welcome questions, thoughts, and ideas, I will not tolerate any behavior that is disruptive or displays a lack of respect for your fellow students or me. Insults, hate speech, ridicule, or any form of disrespect aimed at anyone in the classroom will not be tolerated. Please follow the OSU Code of Student Conduct. I most certainly will.

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**GRADES:**

This class includes the opportunity to earn **240 total points**. Final course grades will be based on the percentage of points earned out of the 240 total available points (**rounded to the nearest 1/10 of a point**). However, due to the opportunity for Extra Credit, **there will be no curve** for the final grade.)

The following OSU standard scale will be used to assign final grades:

A	93% +	C	73% - 76.9%
A-	90% - 92.9%	C-	70% - 72.9%
B+	87% - 89.9%	D+	67% - 69.9%
B	83% - 86.9%	D	60% - 66.9%
B-	80% - 82.9%	E	Below 60%
C+	77% - 79.9%		

The 240 points will be earned by completing the following:

**EXAMS (150 POINTS):** There will be 4 multiple-choice Exams each worth 50 points. *The lowest of the 4 scores will be dropped.* The first 3 Exams will be given on the assigned days in class (see Class Schedule) and the Final Exam will be held at the appointed time during Finals Week.

**\*\* There will be NO early Exams or makeup Exams! Please plan your semester accordingly!**

*If you experience an extreme event that inhibits you from attending an exam, you should contact Student Advocacy immediately for assistance with all of your classes, not just this one!*

**ASSIGNMENTS (60 POINTS):** There will be 3 writing assignments distributed throughout the semester. Each will be worth 20 points. (See the Class Schedule for due dates.) The first is essentially an internet search and use of a brain atlas software to demonstrate that you know how to find answers to cognitive neuroscience questions that I don't cover in class. The second is an analysis/summary of an actual journal article (you'll get to choose from a handful of recent articles that I will post on Carmen.) The third is a write-up of a set of behavioral and neuroimaging results that I will provide to you on Carmen. I will provide more specific details and instructions later in the semester. *Late assignments WILL NOT be accepted for any reason whatsoever, barring a prior arrangement with Disability Services. If you experience an extreme event that inhibits you from submitting work on time, you should contact Student Advocacy immediately for assistance with all of your classes.* Please note the due dates and times on the calendar page.

**QUIZZES (30 POINTS):** Every week on Friday afternoon, an online quiz will be made available via Carmen focusing on in-class material from the previous week. Each quiz will be worth 2 points, and *MUST be completed by 12:00pm (Noon) on the following Tuesday. Late quiz submissions WILL NOT be accepted under any circumstances.* I fully intend to provide an opportunity to earn more than 30 possible points. *Any extra points will simply count as extra credit toward your final grade.*

**(Disputing Grades)**

Occasionally, a student may believe that a grade is flawed, and instructors can make clerical errors. If you wish to dispute a grade, please submit a request to me by email. Requests for grade changes should include detailed information consisting of how you believe the grading was in error and any supporting information. I will research the issue thoroughly and reply with a rationale for my final decision. All decisions are final.

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## **STUDENTS WITH DISABILITIES:**

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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](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue. **YOU DO NOT NEED TO IDENTIFY YOUR DISABILITY TO ME!** The SLDS office will help!

## **ACADEMIC INTEGRITY:**

Students are expected to uphold a high standard of academic integrity. **CHEATING AND PLAGIARISM WILL NOT BE TOLERATED AND WILL RESULT IN FAILURE OF THE COURSE AND WILL BE REPORTED TO THE DEAN. IGNORANCE IS NOT AN EXCUSE!**

Failure to adhere to these guidelines may result in a failing grade and/or suspension. Please see the Code of Student Conduct: <http://oaa.ohio-state.edu/coam/home/html>.

“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)

## **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](mailto:titleix@osu.edu)

## **MENTAL HEALTH RESOURCES:**

### **Important campus resources for self-care and success**

The Dennis Learning Center (<https://dennislearningcenter.osu.edu/>), located within the Younkin success center, has many online and in-person resources available for improving study skills or dealing with test anxiety.

OSU has many resources for students to help with everything from stress management to suicide prevention. The OSU Counseling and Consultation Service (<http://www.ccs.ohio-state.edu>) offers tips on how to manage stress, a self-help section, and information on support groups as well as group or individual therapy. Also, the Psychological Services Center (PSC) in the Psychology Building provides free psychotherapy for students, staff, and community members. Drop in, or call (614) 292-2059 for more information.

The Student Advocacy Center is an office on campus that works with students who have been significantly ill or experienced other traumatic personal issues to minimize the impact these circumstances may have on their academics. They can provide you with resources to cope with your situation and they can also contact instructors to provide documentation on your behalf. Phone: 614-292-1111, web address: <http://advocacy.osu.edu/>.

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**CLASS SCHEDULE:**

<b>Dates</b>	<b>Lecture Topics &amp; Reading Schedule</b>
Week 1 1/6 – 1/10	<u>Ch 1: A Brief History of Cognitive Neuroscience</u> <i>Introduction, Syllabus, &amp; Historical Perspective</i>
Week 2 1/13 – 1/17	<u>Ch 2: Structure and Function of the Nervous System</u> <i>Neuronal Signaling, Synaptic Transmission, Structural Overview, Cerebral Cortex, Development</i>
<b>1/20</b>	<b>Dr. Martin Luther King Jr. Day</b>
Week 3 1/22 – 1/24	<u>Ch 3: Methods of Cognitive Neuroscience</u> <i>Behavioral Methods, Lesion Studies, Perturbation Methods, Structural Analysis, Neural Function, Neuro-Imaging, Computational Methods</i>
Week 4 1/27 – 1/31	<u>Ch 5: Sensation and Perception</u> <i>Audition, Olfaction, Gustation, Somatosensation, Vision, Visual Deficits</i>
<b>Friday 1/31</b>	<b>Assignment 1 due at 11:59 PM *NO LATE SUBMISSIONS ACCEPTED</b>
Week 5 2/3 – 2/7	<i>Catch Up &amp; Review (Chapters 1,2,3,&amp; 5)</i>
<b>Friday 2/7</b>	<b>EXAM 1 (in regular class)</b>
Week 6 2/10 – 2/14	<u>Ch 4: Hemispheric Specialization</u> <i>Anatomy, Splitting the Brain, Hemispheric Specialization, Evolutionary Basis, Split-Brain Research</i>
Week 7 2/17 – 2/21	<u>Ch 6: Object Recognition</u> <i>“What” and “Where” pathways, Computational Issues, Face Recognition</i>
Week 8 2/24 – 2/28	<u>Ch 7: Attention</u> <i>Anatomy &amp; Neurophysiology, Models, Neural Mechanisms, Attentional Cortical Networks</i>
Week 9 3/3 – 3/6	<u>Ch 8: Action</u> <i>Motor Structures, Computational Issues, Physiology, Action Planning and Goals, Brain-Machine Interface, Motor Learning</i>
<b>Week 10</b>	<b>SPRING BREAK! YAY!</b>
Week 11 3/16 – 3/20	<u>Ch 9: Memory</u> <i>Amnesia, Mechanisms, MTL, Imaging, Consolidation, Cellular Basis of Learning and Memory</i>
<b>Friday 3/20</b>	<b>Exam 2 (in regular class)</b>
<b>Monday 3/23</b>	<b>Assignment 2 due at 11:59pm *NO LATE SUBMISSIONS ACCEPTED</b>
Week 12 3/23 – 3/27	<u>Ch 10: Emotion</u> <i>Categorization, Theories, Amygdala, Interactions, Cognitive Processes &amp; Control</i>
Week 13 3/30 – 4/3	<u>Ch 11: Language</u> <i>Anatomy, Lesion Studies, Comprehension, Spoken &amp; Written Language, Neural Models</i>
Week 14 4/6 – 4/10	<u>Ch 12: Cognitive Control</u> <i>Anatomy, Deficits, Goal-Oriented Behavior, Decision-Making, Goal Planning</i>
Week 15 4/13 – 4/17	<u>Ch 14: Consciousness, Free Will, and the Law</u> <i>Anatomy, Conscious Processing, The Brain Interpreter, Concept of Free Will, Responsibility &amp; Judgment</i>
<b>Friday 3/17</b>	<b>Assignment 3 due at 11:59 PM *NO LATE SUBMISSIONS ACCEPTED</b>
Week 16 4/20	<b>FINAL CLASS: Exam 3 (in regular class)</b>
<b>Friday 4/24</b>	<b>Final Exam: Friday 4/24, 10:00 AM – 11:45 AM, Location TBA</b>

## Arts and Sciences Distance Learning Course Component Technical Review Checklist

**Course: PSYCH 3513**

**Instructor: TBD**

**Summary: Introduction to Cognitive Neuroscience**

Standard - Course Technology	Yes	Yes with Revisions	No	Feedback/ Recomm.
6.1 The tools used in the course support the learning objectives and competencies.	X			<ul style="list-style-type: none"> <li>• Office 365</li> <li>• Carmen</li> </ul>
6.2 Course tools promote learner engagement and active learning.	X			<ul style="list-style-type: none"> <li>• Zoom</li> <li>• Asynchronous or synchronous lab sessions.</li> <li>• Carmen discussion boards.</li> <li>• Tophat</li> </ul>
6.3 Technologies required in the course are readily obtainable.	X			All tech is available for free via OSU site license.
6.4 The course technologies are current.	X			The majority of the tech is web based and updated regularly.
6.5 Links are provided to privacy policies for all external tools required in the course.	X			No 3 <sup>rd</sup> party utilities are used.
Standard - Learner Support				
7.1 The course instructions articulate or link to a clear description of the technical support offered and how to access it.	X			Links to 8HELP are provided.
7.2 Course instructions articulate or link to the institution's accessibility policies and services.	X			a
7.3 Course instructions articulate or link to an explanation of how the institution's academic support services and resources can help learners succeed in the course and how learners can obtain them.	X			b
7.4 Course instructions articulate or link to an explanation of how the institution's student services and resources can help learners succeed and how learners can obtain them.	X			c
Standard – Accessibility and Usability				
8.1 Course navigation facilitates ease of use.	X			Recommend using the Carmen Distance Learning "Master Course" template developed by ASC and available in the Canvas Commons to provide student-users with a consistent user experience in terms of navigation and access to course content.
8.2 Information is provided about the accessibility of all technologies required in the course.	X			No 3 <sup>rd</sup> party tech is used.
8.3 The course provides alternative means of access to course materials in formats that meet the needs of diverse learners.	X			Recommend that resources be developed to address any requests for alternative means of access to course materials.
8.4 The course design facilitates readability	X			Recommend using the Carmen Distance Learning "Master Course" template developed by ASC and available in the Canvas Commons to provide student-users with a consistent user experience in terms of navigation and access to course content.

8.5 Course multimedia facilitate ease of use.	X		All assignments and activities that use the Carmen LMS with embedded multimedia facilitates ease of use. All other multimedia resources facilitate ease of use by being available through a standard web browser.

**Reviewer Information**

- Date reviewed: 1/13/21
- Reviewed by: Ian Anderson

**Notes: This one is good to go!**

<sup>a</sup>The following statement about disability services (recommended 16 point font):  
 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](mailto:slds@osu.edu); 614-292-3307; 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.

<sup>b</sup>Add to the syllabus this link with an overview and contact information for the student academic services offered on the OSU main campus. <http://advising.osu.edu>

<sup>c</sup>Add to the syllabus this link with an overview and contact information for student services offered on the OSU main campus. <https://contactbuckeyelink.osu.edu/>