

## Term Information

Effective Term Autumn 2020

## General Information

Course Bulletin Listing/Subject Area Psychology  
Fiscal Unit/Academic Org Psychology - D0766  
College/Academic Group Arts and Sciences  
Level/Career Graduate  
Course Number/Catalog 6880  
Course Title Techniques and Topics in Cognitive Neuroscience  
Transcript Abbreviation Topics cog neuro  
Course Description This course is required for all Cognitive Neuroscience graduate students and for Cognitive Neuroscience concentration students. Students will attend talks given by internal faculty and engage in group discussions about relevant topics and techniques in the field of cognitive neuroscience.  
Semester Credit Hours/Units Fixed: 2

## 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? No  
Grading Basis Letter Grade  
Repeatable No  
Course Components Lecture  
Grade Roster Component Lecture  
Credit Available by Exam No  
Admission Condition Course No  
Off Campus Never  
Campus of Offering Columbus

## Prerequisites and Exclusions

Prerequisites/Corequisites None  
Exclusions  
Electronically Enforced Yes

## Cross-Listings

Cross-Listings

## Subject/CIP Code

Subject/CIP Code 26.1501  
Subsidy Level Doctoral Course  
Intended Rank Doctoral

## Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

## Course Details

### Course goals or learning objectives/outcomes

- Gain familiarity with classic as well as new methods for the analysis of data in neuroscience.
- Gain familiarity with a broad range of important topics within the field of cognitive neuroscience.
- Learn how to engage in scientific discussions by aggregating many sources of information and thinking critically about the material.

### Content Topic List

- History of neuroimaging
  - Neuroanatomy
  - Neurons / systems-level / principles of neural science
  - Neuroimaging methods (fmri/eeg/patients/etc)
  - Sensation/perception
  - Memory
  - Learning
  - Language
  - Attention
  - Cognitive control / executive function
  - Reward / decision
  - Emotional / affective
  - Social neuro / theory of mind
  - Developmental & aging
  - Clinical neuroscience
- No

### Sought Concurrence

## Attachments

- Psych 6880 syllabus--Turner.docx: syllabus  
*(Syllabus. Owner: Paulsen, Alisa Marie)*

## Comments

- The cognitive neuroscience concentration refers to graduate students also. *(by Paulsen, Alisa Marie on 10/24/2019 06:03 PM)*
- 10/24/19: Both the syllabus and the course description above say, "Cognitive Neuroscience graduate students and for Cognitive Neuroscience concentration students." If the Neuro concentration students refer to students in the undergrad program, shouldn't this be a 5000-level course? *(by Haddad, Deborah Moore on 10/24/2019 05:59 PM)*

**COURSE REQUEST**  
6880 - Status: PENDING

Last Updated: Haddad,Deborah Moore  
10/24/2019

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Paulsen,Alisa Marie	10/24/2019 04:16 PM	Submitted for Approval
Approved	Paulsen,Alisa Marie	10/24/2019 04:17 PM	Unit Approval
Revision Requested	Haddad,Deborah Moore	10/24/2019 05:59 PM	College Approval
Submitted	Paulsen,Alisa Marie	10/24/2019 06:03 PM	Submitted for Approval
Approved	Paulsen,Alisa Marie	10/24/2019 06:03 PM	Unit Approval
Approved	Haddad,Deborah Moore	10/24/2019 06:04 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Oldroyd,Shelby Quinn Vankeerbergen,Bernadette Chantal	10/24/2019 06:04 PM	ASCCAO Approval

**Syllabus**  
**Fall 2020 PSYC 6880: Techniques and Topics in Cognitive Neuroscience**  
**Section X (X) TURNER**  
**Tuesday & Thursday 12:45PM – 2:05PM; Psychology Building, Room X**

Instructor: Brandon Turner Email: <a href="mailto:turner.826@gmail.com">turner.826@gmail.com</a> Office: Lazenby Hall, 200C Office hours: By appointment
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**Prerequisites and Enrollment Information:**

No prerequisites required. This course is required for ALL Cognitive Neuroscience graduate students and for Cognitive Neuroscience concentration students. Other students wishing to take the course for credit should contact the instructor.

**Course Readings:**

Each week will consist of a set of readings (articles, chapters, etc) which are listed below.

**Course Description:**

Cognitive Neuroscience is a rapidly expanding scientific discipline 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. The purpose of the course is to survey many important topics in the field of cognitive neuroscience, while highlighting specific contributions of techniques in advancing our understanding of said topic. Each week covers a different topic, where one half of the week will be lead by an expert in the field, and the other half will be student led on a set of preselected readings (see below). Some additional general goals of the course pertain the Cognitive Neuroscience graduate program. Namely, the course is intended to establish a common grounding on important areas within Cognitive Neuroscience, facilitate a community within the area, and providing exposure to faculty members that are difficult to establish otherwise.

**Course Goals:**

- Gain familiarity with classic as well as new methods for the analysis of data in neuroscience.
- Gain familiarity with a broad range of important topics within the field of cognitive neuroscience.
- Learn how to engage in scientific discussions by aggregating many sources of information and thinking critically about the material.

**Tasks:**

Presentation (50%): All students will be responsible for presenting an empirical paper and leading a discussion on the paper. You will choose the date and paper to present from the available readings below. Every participant will be expected to present at least

once and perhaps more, depending on the total number of class participants. The presentation should be a 15-minute powerpoint, keynote, or equivalent presentation of the background, methods, results, and implications of the paper. Presenters for each week should upload their presentations on Carmen. These slides will only be viewable by the instructor until the presentation takes place. The presenters can edit their slides and re-upload their presentation up until their talk, but a draft talk should be there one day before the presentation. This exercise will limit last minute preparation and make the presentations more enjoyable and educational for everyone. The presentation slides will be available for the class to view after the presentation takes place. Presenters need to give a brief overview of the questions answered by the paper (talk about some background research as needed), present the methods in a clear manner such that we can all understand it, and discuss the results of the paper. In order to have productive conversations, please discuss one or more things the paper accomplishes well and one or more things that the paper fails to do well. Think about whether the paper answers the question(s) it set out to answer and how you would have set out to answer that question.

Attendance and Participation (25%): All students are expected to attend class and participate in the lectures and discussions.

Response Papers (25%): Students must submit weekly discussion questions/response papers (half-page, due Wednesday at 10pm). The weekly response can either compare the assigned papers and discuss their merits in answering important questions within cognitive neuroscience; OR find an alternative empirical paper that better addresses the current topic and discuss why.

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

93-100%	A	73-76.99%	C
90-92.99%	A-	70-72.99%	C-
87-89.99%	B+	67-69.99%	D+
83-86.99%	B	63-66.99%	D
80-82.99%	B-	60-62.99%	D-
77-79.99%	C+	<59.99%	E

**Class attendance policy:**

Attendance is mandatory. Illness and personal/professional obligations may be accepted as an excuse for missing class. You will still be responsible for turning in discussion questions for the day that you were absent, with a reasonable (~1 week) delay. If you cannot present on the day that you are scheduled to present, you will need to present on another day on another topic. *If you are sick/contagious but feeling up to it, email me if you want to Skype/video chat in to class.*

**Academic Integrity:**

**CHEATING AND PLAGIARISM WILL NOT BE TOLERATED AND WILL BE REPORTED TO THE COMMITTEE ON ACADEMIC MISCONDUCT. 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 [http://studentlife.osu.edu/pdfs/csc\\_12-31-07.pdf](http://studentlife.osu.edu/pdfs/csc_12-31-07.pdf)”

Please be aware that every assignment you turn in on Carmen 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 me! See example from Class 1 lecture slides.

**Missed Classes:**

If you miss a class, please contact fellow students for relevant notes and handouts. The instructor or course assistants are available to meet with you after you have reviewed the notes and readings to answer additional questions. It will help to get the contact info of some fellow students.

**Accommodation:**

Students with disabilities that have been certified by the Office of Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>

**Cell Phones and Electronic Devices in Class:**

An increasing amount of research has pointed to negative cognitive effects of excessive electronic device use, something that will likely come up in class. Many of us find it hard to resist texting or even surfing the web during class. And there is evidence that it dramatically worsens performance for you and your neighbors (see lecture slides from Class 1).

With all of this in mind, I have established the following policies:

1. If you bring a laptop to class, it can be used only to take notes. Do not use it for web surfing or engaging in social media. Students found to be surfing the web or otherwise using their computers in a manner that is distracting to their classmates will be asked to close their laptops. If a student continues this inappropriate laptop use, he/she will be asked to leave the classroom.
2. If students need to text or make a phone call, they are required to first excuse themselves from the classroom.

**Class Schedule (subject to change):**

Week 1: History of neuroimaging

Tuesday, 8/25: Lecture from Expert

Thursday, 8/27: Presentations from Students

Week 2: Neuroanatomy

Tuesday, 9/1: Lecture from Expert

Thursday, 9/3: Presentations from Students

Week 3: Neurons / systems-level / principles of neural science

Tuesday, 9/8: Lecture from Expert

Thursday, 9/10: Presentations from Students

Week 4: Neuroimaging methods (fmri/eeg/patients/etc)

Tuesday, 9/15: Lecture from Expert

Thursday, 9/17: Presentations from Students

Week 5: Sensation/perception

Tuesday, 9/22: Lecture from Expert

Thursday, 9/24: Presentations from Students

Week 6: Memory

Tuesday, 9/29: Lecture from Expert

Thursday, 10/1: Presentations from Students

Week 7: Learning

Tuesday, 10/6: Lecture from Expert

Thursday, 10/8: Presentations from Students

Week 8: Language

Tuesday, 10/13: Lecture from Expert, and Presentations from Students

Thursday, 10/15: Fall Break; No classes

Week 9: Attention

Tuesday, 10/20: Lecture from Expert

Thursday, 10/22: Presentations from Students

Week 10: Cognitive control / executive function

Tuesday, 10/27: Lecture from Expert

Thursday, 10/29: Presentations from Students

Week 11: Reward / decision

Tuesday, 11/3: Lecture from Expert

Thursday, 11/5: Presentations from Students

Week 12: Emotional / affective

Tuesday, 11/10: Lecture from Expert  
Thursday, 11/12: Presentations from Students

Week 13: Social neuro / theory of mind  
Tuesday, 11/17: Lecture from Expert  
Thursday, 11/19: Presentations from Students

Week 14: Developmental & aging  
Tuesday, 11/24: Lecture from Expert  
Thursday, 11/26: Thanksgiving break; No classes

Week 15: Developmental & aging (cont); Clinical neuro  
Tuesday, 12/1: Presentations from Students  
Thursday, 12/3: Lecture from Expert

Week 16: Clinical neuro  
Tuesday, 12/8: Presentations from Students

**Final project paper due: Day, Month X, by X:X PM EST**  
**This cannot be rescheduled.**