

# Psychology 4140, Cognitive Neuroscience – Syllabus, Fall 2018

Tue Thurs. 11:00am – 12:15pm, Psychology 120

**Instructor: Brian W. Haas, Ph.D.**

Office: Psychology 522

Office Hours: by appointment

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*The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.*

**General Course Information:** This course will cover the origins and principles of cognitive neuroscience and the types of research that are conducted in the field. We will cover classic, seminal, and current studies on how the brain performs various tasks (e.g., language, memory, attention, perception). The primary goal of the course is for students to improve their analytical and critical thinking ability to read and interpret empirical cognitive neuroscience research.

## Required Text

**1. Brain and Behavior: A Cognitive Neuroscience Perspective:** 1st Edition

by David Eagleman and Jonathan Downar

**2. The Mind's Eye Paperback**

by Oliver Sacks

## Assignments

**Exams (40% of Grade):** There will be two exams in this class. The first exam (15% of grade) will be Thursday, September 27<sup>th</sup>. The final exam (25% of grade) will be cumulative. Exams will include a mix of multiple choice and short answer. Exams will cover material from the textbooks, lectures and articles. Anything in the textbook, handed out in class or presented in class may appear on an exam. Students will have one class period to complete each exam. Students will be allowed to use, and refer to, the articles that were previously handed out in class (Teach and Learn articles).

**Critical Thinking Individual (10% of Grade):** Each student will be given an article based on a recent scientific study. Each student will be assigned to perform a critical analysis of the study and write a paper (~4 pages) outlining their critique.

**Critical Thinking Team (10% of Grade):** Each team will be given an article based on a recent scientific study. Each team will be assigned to perform a critical analysis of the study and write a paper (~6 pages with Figures) outlining their critique. For the team project, please include a short paragraph detailing the contribution of each team member.

- What are the limitations of this study?
- How could this study be improved?
- What are some alternative interpretations of the results?
- What specific novel ideas do you have to investigate this research topic?

**Discussion Points (10% of Grade):** A portion of this class will consist of discussing the readings from the text (*The Mind's Eye* Paperback by Oliver Sacks). In order to facilitate discussions, each student is assigned to complete 4 out of 5 Discussion Points. The discussion points are due to me in email (by 1:00pm the day prior of the day we discuss the reading; see schedule: "DPs due"). The discussion points should consist of:

- Something that you thought was interesting (changed your thinking): 2 – 3 sentences.
- Some new question that you have, inspired by the reading: 1 sentence.
- Some new information that you learned (outside of the reading), perhaps you searched and found out about this through an internet search: 2 – 3 sentences.

\*When emailing me your Discussion Points, please use a Word Document and name the file with your name. Discussion points are not counted towards your grade if you do not attend on the day of the discussion.

**Teach and Learn (10% of Grade):** Prior to each Teach and Learn day, students will be given 2 readings. Half of the class will be assigned to be prepared to teach fellow students about 1 of the readings, and the other half of the class will be assigned to teach fellow students about the other reading. Credit will be granted based on how well each student is teaching their material to their fellow students.

**Compare and Contrast Paper (10% of Grade):** Each student will be assigned to search for and find two scientific articles that describe specific studies that investigate a similar psychological mechanism but use two different approaches. Then, each student will write a paper (~4 pages) describing the commonalities and differences and as well as the strengths and weaknesses that exist for the two studies. For example, one may be interested in the psychological mechanism, "Memory." Two different approaches may be:

- -humans vs. animals
- -mice vs. primates
- -brain imaging vs. electroencephalography (EEG)
- -healthy vs. clinical/lesions patients

**Final Project (10% of Grade):** Students will be paired with a fellow student within the class. Each team will be assigned a brain region and will then make a brief presentation to the class on the brain region. The brain region will be randomly assigned to each team towards the end of the semester. Presentations will include a few power point slides and be approximately 5 – 10 minutes in lengths. The presentations will occur on the last two regular class periods (November 27 and 29).

**Attendance:** Attendance will be taken. If a student is marked absent more than 3 class periods, their grade will be reduced by 5%. If a student is more than 5 minutes late to class, this counts as an absence.

## Grading

### Breakdown of your grade:

Exam 1	15%	Discussion Points	10%
Final Exam	25%	Teach and Learn	10%
Critical Thinking (Individual)	10%	Compare and Contrast Paper	10%
Critical Thinking (Team)	10%	Final Project	10%

### University Grading Standards:

A	>92.5%	C+	77.5%
A-	90.0%	C	72.5%
B+	87.5%	C-	70.0%
B	82.5%	D+	67.5%
B-	80.0%	D	60%
		F	<60%

## Course Policies

**Late/Make-up Work:** There will be no make-up exams. If you miss an exam for any well-documented legitimate reason, your final exam grade will be applied to your grade for the missed exam. Late assignments will be accepted for full credit only in well-documented emergencies. Hard copies of all assignments must be turned in directly (i.e., in person, NOT mailbox) to the instructor.

**Incompletes:** A grade of "Incomplete" will be granted only in the most severe emergencies and at the discretion of the instructor. Written documentation is required. Students seeking an Incomplete must make specific arrangements with the instructor before the end of the semester.

**Scholastic Dishonesty/Academic Misconduct:** All academic work must meet the standards contained in "A Culture of Honesty." All students are responsible to inform themselves about those standards before performing any academic work. The University defines their policy on scholastic dishonesty as follows: "No student shall perform, attempt to perform, or assist another in performing any act of dishonesty on academic work to be submitted for academic credit or advancement. A student does not have to intend to violate the honesty policy to be found in violation." Examples of academic dishonesty include, but are not limited to, plagiarism, unauthorized assistance, giving false information or tampering with academic work, and theft. Concerning written assignments, passages of more than five words should not be taken directly from another source without proper attribution. We expect that the work you submit will reflect your individual efforts. There is nothing wrong with including the work of others in your papers as long as you acknowledge the source. If it is determined that a student has engaged in any form of academic misconduct, he or she may be given an F for the course, will be reported to the Office of the Vice President for Instruction, and may face additional sanctions from the University. For more information concerning academic misconduct, please visit <http://uga.edu/honesty>.

**Students with Disabilities:** Students with disabilities or special needs are encouraged to contact the instructor to discuss any arrangements that may be needed to facilitate their work in the course. The University of Georgia seeks to provide students with disabilities the opportunity to fully participate in educational programs and services. In keeping with this philosophy, it is University policy that students with documented disabilities receive reasonable accommodations through access to classroom information. If you plan to request accommodations for a disability, please register with the Disability Resource Center, which is located in 114 Clark Howell Hall or via the internet at <http://www.dissvcs.uga.edu/>

## Schedule

Date	Topic	Book Chapter	Assignments Due
Tue, Aug 14	Intro/History	1	
Thur, Aug 16	Navigating the Nervous System	2	
Tue, Aug 21		2	
Thur, Aug 23	Neurons and Synapses	3	
Tue, Aug 28		3	
Thur, Aug 30	Neuroplasticity	4	<b>Teach and Learn 1</b>
Tue, Sep 4		4	<b>DP1 due</b> (Mon, Sep 3, @1:00pm)
Thur, Sep 6	Attention and Consciousness	8	
Tue, Sep 11		8	<b>Teach and Learn 2</b>
Thur, Sep 13	Memory	9	<b>DP2 due</b> (Wed, Sep 10, @1:00pm)
Tue, Sep 18		9	
Thur, Sep 20	Sleep	10	<b>Teach and Learn 3</b>
<b>Tue, Sep 25</b>		10	<b>Critical Thinking Paper due</b>
Thur, Sep 27	<b>Exam</b>		
Tue, Oct 2			go over exam
Thur, Oct 4	Emotions	13	<b>DP3 due</b> (Wed, Oct 4, @1:00pm)
Tue, Oct 19		13	<b>Teach and Learn 4</b>
Thur, Oct 11		13	
<b>Tue, Oct 16</b>	Motivation and Reward	14	<b>Compare and Contrast Paper due</b>
Thur, Oct 18		14	
Tue, Oct 23		14	<b>DP4 due</b> (Mon, Oct 22, @1:00pm)
Thur, Oct 25	Social Cognition	15	
Tue, Oct 30		15	<b>Teach and Learn 5</b>
Thur, Nov 1		15	
<b>Tue, Nov 6</b>	Disorders	16	<b>Team Critical Thinking Project due</b>
Thur, Nov 8		16	
Tue, Nov 13		16	<b>DP5 due</b> (Mon, Nov 13, @1:00pm)
Thur, Nov 15	In class activity		
Nov 20 / 22	Thanksgiving Break		
Tue, Nov 27	Final Project Presentations		
Thur, Nov 29	Final Project Presentations		
Tue, Dec 11	<b>FINAL EXAM: 12:00 - 3:00pm</b>		