

PSYCHOLOGY 304: Mind, Brain & Behavior Spring 2016

Professor: Dr. Rosie Cowell
Office: Tobin Hall 431
Office Hours: Tuesdays 9.00 – 10.00 am or by appointment
Email: rcowell@psych.umass.edu
Lecture times: Tue/Thu 2.30 – 3.45 pm
Class location: Tobin Hall 307

The instructor reserves the right to make minor modifications to this syllabus at any time.

Course website

<https://moodle.umass.edu/course/view.php?id=27388>

The course Moodle page includes this syllabus, readings, schedule, changes in the schedule and other announcements. Any changes in the course requirements or schedule will be posted on Moodle and you are responsible for knowing them. **Please check Moodle regularly.**

Course Description and Objectives

This course will examine how the human mind arises from its biological underpinnings in the brain. How does the brain enable us to conjure a vivid memory of our first date, recognize the face of an old friend, or take notes during class? We will learn how these cognitive functions are supported by neural mechanisms such as the firing of individual neurons or the complex patterns of activation that emerge when millions of neurons are connected together into circuits. We will learn about the experimental methods used to measure and understand these neural mechanisms in human subjects. Finally, we will study some of the ways in which these cognitive functions can be disrupted by disease or brain damage.

By the end of the course, you should have gained (1) an understanding of how you use information from the world to guide your behavior and shape your thoughts, (2) greater knowledge of the brain structures and neural processes that underlie your behavior and thoughts, and (3) a deeper understanding of the experimental methods that cognitive neuroscientists use to study the human mind and brain.

Prerequisites: One of PSYCH 100 or PSYCH 110, **and** PSYCH 330.

Course Required Materials

- 1) *Cognitive Neuroscience: The Biology of the Mind*, 4th Edition, Author: Michael S. Gazzaniga, Publisher: W. W. Norton & Company, Edition: 4th. ISBN: 978-0393913484. View/purchase at Amazon: http://umass.amazon.com/dp/0393913481/ref=umass_coursecatalog
- 2) *i>clicker 2 Remote*. ISBN: 978-1498601634. Please note that REEF polling is **not necessary** for this class (although it comes free for 6 months with the latest version if i>clicker2 on Amazon). If you have an older version of the i>clicker remote, that will be sufficient (no need to upgrade).

Class attendance

Class attendance is extremely important. Classes will be used to *elaborate on concepts from the assigned readings*, introduce *new material*, conduct *demonstrations*, show *videos*, and collect *in-class question responses* via i>clicker polling. All tests and exams will be based on readings and on **any material covered in class**: regular attendance will help you to earn a higher grade. If you do miss class, you must obtain the notes for that day from a classmate. It is **your responsibility** to find out about any information presented during a class you missed, including changes to the syllabus, announcements, etc.

Course Requirements

- In-class i>Clicker Questions (10%)
- Two Pop Quizzes (5% each = 10%) *Note:* Three quizzes total, of which the lowest dropped.
- One Mid-Semester Test (15%)
- One Final Exam (30%)
- One Oral Presentation (10%)
- One Thought Paper (25%)
- Extra Credit is available through participation in Experiments. See *Extra Credit* section.

In-class Questions and Activities via i>clicker Polling (10%)

In every class there will be questions and activities interspersed with the lecture material, to which you can respond using your i>clicker remote. Scoring for i>clicker Questions and Activities will include a mixture of participation-based and performance-based points; many of the available points can be earned simply by participating. Your i>clicker score will begin accumulating on Tuesday 26 January (Class #3). At the end of each class, your total points will be summed and divided by the maximum that it was possible to obtain during that class. At the end of the semester, your *lowest two* i>clicker class scores will be dropped and your i>clicker semester score will be the average of the remaining class scores (this means you get two freebies if you miss class for illness, etc.). Your i>clicker semester score will count as 10% of your final grade. **There will be no make-up option for i>clicker points. They may be obtained in class only.**

Pop Quizzes (10%)

There will be *three* pop quizzes during the semester, each worth 5 points. The lowest quiz grade will be dropped, to give *two* quizzes in total (10% of total course grade). The quizzes will cover material from prior classes and/or material from the assigned readings for that day. Quiz dates will not be announced in advance. **There will be no make-up quizzes.** If you are absent for a quiz, it will count as your dropped grade, with no need to provide documentation. If you miss more than one quiz for legitimate reasons (e.g., ill health, religious holiday) you must provide valid documentation for **all** quiz-day absences in order to receive credit for the quizzes you missed. In the case of legitimate, documented absences on quiz days, the credit assigned to you will be calculated on the basis of your performance in other similar assignments. Without valid documentation, any missed quiz will score zero.

Mid-semester Test (15%)

Although the emphasis will be on material covered during lectures, the mid-semester test may contain any material from the class lectures, textbook and other formally assigned required readings. Because the lectures will cover some information not contained in the textbook (and vice versa), it is important to attend lectures **and** do the readings. The mid-semester test questions will encompass any material covered in readings and the lectures up to the date of the test.

Final Exam (30%)

There will be a cumulative final exam during Finals Week (check Spire for date, time and location). All material covered from the beginning to the end of the course, including topics that were examined in the Mid-Semester Test, will be tested. Questions will be based on all assigned readings (whether explicitly covered in class or not), and all or any material from class lectures.

Oral Presentation (10%)

- Each student will give an individual presentation. Presentations will be delivered during class, with dates to be assigned early in the semester.
- Presentation topics will be selected/assigned early in the semester.

- You should prepare a file (either Powerpoint or PDF) with visual displays to use during your presentation. The file should be turned in on the **day before** your presentation, via Moodle.
- Each presentation will be **6-7 minutes** in length. You should plan to have **no more than 5 slides**, and spend approximately **1 minute per slide**. Time limits will be **strictly enforced**. You should rehearse and time yourself before presenting in class.
- The instructor will consider requests to work in pairs for the oral presentation. If the request is granted, the joint presentation would be 12-14 minutes long (strictly enforced).

Thought Paper (25%)

The thought paper is designed to improve your ability to critically evaluate empirical research. You will select a primary research article from the cognitive neuroscience literature and critically evaluate it. You should focus on an experimental report (i.e., a primary research article) that was **published in one of the following journals**: *Brain, Cerebral Cortex, Cortex, Current Biology, Experimental Brain Research, Journal of Cognitive Neuroscience, Journal of Neuroscience, Journal of Neurophysiology, Nature, Nature Neuroscience, Neurology, Neuropsychologia, Neuron, Psychological Science, or Science*. Your choice of article must be approved by the instructor by **Thursday March 10th** (before Spring Break). You should use one article as the focus of your paper, but you should cite a **minimum of 2 additional articles** to back up any claims you make. These supporting articles may be from journals other than those listed above. The thought paper should include:

1. **A summary** of the primary article. This should amount to a *brief and concise* description of the article. When describing a study, you should focus on its rationale and aims, methods, results and a discussion of the conclusions. No more than one full page is recommended.
2. **A commentary or critique** of the article, which should express *your thoughts* on the topic, not just a regurgitation of the study's findings. This section is more open-ended and may involve: relating the findings to other research articles or a "real life" situation (and discussion of the scientific implications for the real world), describing what you found particularly interesting about the topic, stating whether you were convinced by the results, describing any limitations of the studies, suggesting ideas for future research. It does not have to be a negative commentary: you may discuss strengths and/or weaknesses of the study. Please note: Any argument you make should be backed up by empirical evidence or by sound a priori logic. The evaluation of this section of the thought paper will be based on your understanding of the issues covered in the article, your ability to articulate your thoughts on the article, your ability to synthesize the article's findings with other information, and the degree to which your conclusions are supported and/or defended by evidence and logical argument.

Formatting: Your paper should be approximately **1500-2000 words** (5-7 double-spaced pages). Please use 12-point font, double spacing and 1 inch margins. List all references using APA-style. See this webpage for how to use APA-style references: <https://www.library.cornell.edu/research/citation/apa>.

Thought papers should be turned in on or before Wednesday 27th April, via Moodle.

Grading Scale

A	A-	B+	B	B-	C+	C	C-	D+	D	F
≥ 92.5	≥ 89.5	≥ 84.5	≥ 79.5	≥ 74.5	≥ 69.5	≥ 64.5	≥ 59.5	≥ 54.5	≥ 49.5	< 49.5

Extra-Credit Options

You may earn a maximum of 10 extra-credit points through participation in research studies in the Department of Psychological and Brain Sciences. Each extra-credit point translates to 0.5% points to be added to your final grade average at the end of the semester (for a maximum extra-credit addition of 5%).

1) Participation in Experiments through SONA.

- You may receive extra credit by participating in **up to 4 hours (8 credits)** of experiments through our department's **SONA** system. You will receive 1 experimental credit for every half-hour of research participation, which in turn is worth 0.5 percentage points added to your final grade average for this course. The **maximum extra-credit you can earn from experimental participation is 8 credits**, which will take 4 hours, and will add 4% to your final grade average. Instructions for SONA are here: <http://psych.umass.edu/undergraduate/sona-humansubjects/>
- SONA offers an optional, online "**Pre-screen**" to facilitate the matching of experimental participants with particular experiments. If you opt to do the Prescreen, you will be asked to complete a set of questionnaires and will be registered in the pool of subjects, and you will earn **2 extra credits** on top of any credit earned for experimental participation (adding a further 1% to your final grade average). You must **complete the Prescreen by February 16th** to receive the extra points. Prescreen information can be found in the SONA instructions at the link above.
- To sign up for experiments and to complete the Prescreen, go to: <http://umasspsych.sona-systems.com/>.
- The **last day to do studies for extra-credit is April 27th, 2016**.
- Any questions? Email: esched@psych.umass.edu for **all** SONA issues.

Academic dishonesty and plagiarism

All students are expected to adhere scrupulously to the University policy on academic honesty, found here: <http://www.umass.edu/ombuds/honesty.php/>. **Please read this policy**. If you do not follow these rules, you could fail the class and be reported to the Academic Honesty Office.

Many students do not understand the extent to which 'paraphrasing' the text in another author's work is **unacceptable** in academic assignments that form part of the requirements for an undergraduate degree. The following website from Indiana University provides examples to help you understand what plagiarism is and how to avoid it: <http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>.

Disability

If you need accommodations for a documented disability, please register with Disability Services and see the instructor **at the start of the semester** to arrange accommodations. Do not wait!

Tentative Schedule

Exact dates for lectures on specific topics may change.
You must ***check Moodle regularly*** for updates and for finalized deadlines for the readings.

Class	Date	Topic	Reading
1	Tue 19 Jan	Welcome and Introduction	Chapter 1
2	Thu 21 Jan	Structure and Function of the Nervous System	Chapter 2
3	Tue 26 Jan	Structure and Function of the Nervous System	Chapter 2
4	Thu 28 Jan	Methods of Cognitive Neuroscience	Chapter 3
5	Tue 2 Feb	Methods of Cognitive Neuroscience	Chapter 3
6	Thu 4 Feb	Sensation and Perception	Chapter 5
7	Tue 9 Feb	Sensation and Perception	Chapter 5
8	Thu 11 Feb	Object Recognition	Chapter 6
	Tue 16 Feb	Monday Class Schedule - NO CLASS	
9	Thu 18 Feb	Object Recognition	Chapter 6
10	Tue 23 Feb	Attention	Chapter 7
	Thu 25 Feb	NO CLASS	
11	Tue 1 Mar	Attention (o)	Chapter 7
12	Thu 3 Mar	Action	Chapter 8
13	Tue 8 Mar	Action (o)	Chapter 8
14	Thu 10 Mar	Mid-Semester Test	
		Spring Break	
15	Tue 22 Mar	Memory	Chapter 9
16	Thu 24 Mar	Memory	Chapter 9
17	Tue 29 Mar	Memory (o)	Article (see Moodle)
18	Thu 31 Mar	Emotion	Chapter 10
19	Tue 5 Apr	Emotion (o)	Chapter 10
20	Thu 7 Apr	Language	Chapter 11
21	Tue 12 Apr	Language	Chapter 11
22	Thu 14 Apr	Social Cognition	Chapter 13
23	Tue 19 Apr	Social Cognition (o)	Chapter 13
24	Thu 21 Apr	Social Cognition (o)	Chapter 13
25	Tue 26 Apr	Course Overview and Exam Preparation	—
Finals 29 Apr - 5 May		Final Exam	