

Laboratory in Cognitive Neuroscience
3 credits

Prerequisites: PSCH 343 and credit or concurrent registration in PSCH 350 or 366

Semester: Fall 2016

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Course number: PSCH 367
Class time: T-R 9:30-11:20am
Class location: SEL 3069

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Course Description, Goals, and Objectives

The Laboratory in Cognitive Neuroscience is a laboratory course focused on the brain mechanisms related to cognitive processing, such as perception, attention, memory, language and decision-making, and will provide hands-on experience with techniques to measure neural function. In this course, we will design and implement behavioral tasks of cognitive performance; collect, analyze, and interpret data. We will collect data using neuroscience techniques, such as eye tracking, physiological measurement of emotional reactivity, and electrophysiological recordings. We will critically read the primary literature and write about results in context of relevant scientific findings.

COURSE MATERIALS

Required Text

There is no required text for this course. We will be reading articles from the primary literature that are available on UIC databases and will be uploaded to Blackboard.

COURSE POLICIES

Attendance Policy

Because this is a laboratory class, attendance, defined as being present at the start of class and remaining present for the duration of the class period, is essential and mandatory. Assigned readings must be completed before class discussions. Absences will only be excused under extreme circumstances. To ensure attendance, your final grade will be reduced for each and any unexcused absence.

Electronic devices are a distraction to me and to the students sitting near you during class. As you will learn in this course, attention and working memory are limited-capacity cognitive processes. Time in class is most useful if you are focused on the material we are discussing, therefore the use of electronic devices for texting, social media, shopping, playing games, entertainment, etc. is not permitted in my class. I will not be using such devices during class and expect the same courtesy from you. If you are using electronic devices in this manner, you should expect me to ask you to either turn it off or leave the room for the benefit of the class as a whole.

Policy for Missed or Late Work

All assignments must be handed in by the start of class on the due date. Exceptions will be made for only the most serious of documented circumstances. No extra credit will be given and no evaluations can be dropped. There are several writing assignments throughout this course, some of which you will submit only via Blackboard's SafeAssign. This course meets the Psychology major requirement for writing in the discipline. A significant portion of your final grade will be based on a single lab report. You will be asked to hand in drafts **of sections of the lab report and you will receive feedback on these drafts**. If you submit any written assignment at any time after the deadline, the grade for that assignment will be reduced by 10% for each day late, beginning at the time that the assignment is due.

Electronic Communication

Blackboard is an integral tool for communication for this course. Announcements will be available on Blackboard, and I highly recommend that you adjust your settings to receive notice of announcements by email. Lecture slides will be posted before class each day, and grades will be posted as soon as they are available.

I am happy to communicate with you by email, and this is often the most reliable way to reach me. You should be sure to identify yourself as a student in Psch 367. In general, people born before 1982 will take your message more seriously if you use proper spelling, punctuation, and grammar. Finally, it will serve you well to not demand a response 'ASAP'. I will typically be able to respond to emails within two workdays, but there will be circumstances that prevent this occasionally. These suggestions may seem superficial, but communicating in a professional manner with those who are teaching (mentoring, advising, or employing) you will make a good impression and are an essential part of your professional development.

Academic Integrity Policy

It is my hope that each student learns the material and succeeds. Academic dishonesty of any form including plagiarism will not be tolerated. Evidence of cheating on any graded material will be dealt with through the Judicial Liaison Process, and will result in a '0' being entered as the grade for the exam or essay. Further consequences could include failure of the course, disciplinary probation, suspension, dismissal or expulsion.

A student who submits work, *at any stage of the writing process*, which in whole or part has been written by someone else or which contains passages quoted or paraphrased from another's work without acknowledgment (quotation marks, citation, etc.) has plagiarized. Maintain your integrity when completing assignments and be overzealous to give credit where it is due. If you are ever unsure about what constitutes plagiarism, ask me. Students who are found to have plagiarized work may be subject to various disciplinary actions, including a failing grade on a particular assignment, failure of the entire course, and possible expulsion from the university. In cases of academic dishonesty, my policy is to file a complaint with the Office of the Dean of Students. For more information about violating academic integrity and its consequences, consult the website of the UIC Office of the Dean of Students at <http://dos.uic.edu/docs/StudentDisciplinaryPolicy.pdf>

RELIGIOUS HOLIDAYS

<http://oae.uic.edu/docs/ReligiousHolidaysFY20152017.pdf>

ACADEMIC DEADLINES

<http://catalog.uic.edu/ucat/academic-calendar/#2016-2017>

DISABILITY ACCOMMODATION

Accommodations are available for students who have disabilities. Please notify me during the first week of class of any accommodation needed for the course. Students with disabilities who require accommodations for access and participation in this course must be registered with the Disabilities Resource Center (http://www.uic.edu/depts/oa/disability_resources/index.html). Disabilities may arise due to unanticipated medical emergencies or other traumatic events. In the case of such a situation, please contact the DRC at the time when the problem occurs, so that a counselor can determine whether any accommodations are needed.

COURSE REQUIREMENTS, METHODS OF EVALUATION, & GRADING POLICIES

You will be evaluated based on multiple small assignments, class participation, and a written lab report. You should contact me **promptly** for advice if you are not performing as well as you want for advice on how to improve your performance.

Your grade will be based on:

Lab summaries, total 80 pts.

Lab report draft, 50 pts.

Final lab report, 100pts.

The distribution of grades will be:

A: 207 - 230 points

B: 184 – 206

C: 161 – 183

D: 138 – 160

F: 0 – 137

HOW TO INTERPRET MIDTERM GRADES

http://tigger.uic.edu/depts/oa/advising/student_midterm.html

TENTATIVE CALENDAR OF MAJOR COURSE EVENTS AND DEADLINES

Week	Day	Date	Topic	Associated Lab/Article
1	T	8/23	Neuroanatomy and physiology	
	R	8/25	Cognitive impairment and brain injury	Hampshire et al, 2013
2	T	8/30	Cognitive impairment and brain injury	Hampshire et al, 2013
	R	9/1	Measuring neural activity	Nerve conduction (10)
3	T	9/6	Measuring neural activity	Data analysis
	R	9/8	Measuring neural activity	Wei et al, 2005
4	T	9/13	Visual system – what and where	Afterimages (10)
	R	9/15	Higher visual function	Freedman et al, 2001
5	T	9/20	Eye movements	EOG (10)
	R	9/22	Eye movements	Moore & Fallah, 2004
6	T	9/27	Attention	Visual Search (20)
	R	9/29	Attention	Data analysis
7	T	10/4	<i>no class</i>	
	R	10/6	Attention	
8	T	10/11	Default mode network	EEG
	R	10/13	Default mode network	Data analysis
9	T	10/18	Default mode network	
	R	10/20	Scientific writing	
10	T	10/25	Learning and reward prediction	
	R	10/27	Learning and reward prediction	
11	T	11/1	Writers workshop	Restless brain; Hayden et al, 2009
	R	11/3	Emotion and cognition	GSR (20)
12	T	11/8	Emotion and cognition; Lab report draft due	Data analysis
	R	11/10	Emotion and cognition	Interpretation of data
13	T	11/15	<i>No class</i>	
	R	11/17	Higher cognitive function	Task design
14	T	11/22	Higher cognitive function	fNIR (10)
	R	11/24	<i>no class - Thanksgiving</i>	
15	T	11/29	Higher cognitive function	Data analysis
	R	12/1	Higher cognitive function	Data analysis
Finals			Final lab report due Dec 9 at 5pm	

UIC RESOURCES

If you find yourself having difficulty with the course material or any other difficulties in your student life, don't hesitate to ask for help! Come to me, or if it is about an issue beyond this class, please contact your college advisors, or get help from any number of other support services on campus. You can get a referral to the right place, or help on the spot, from concerned advisor in the Undergraduate Success Center (USC) at usc@uic.edu.

The Writing Center, located in Grant Hall 105, offers one-on-one consultation with student writers who need help developing ideas, or need advice, guidance or additional instruction on any aspects of writing in any class. Tutors are prepared to spend fifty minutes per appointment, and there is no limit to the number of tutoring sessions you can have each semester. Make an appointment and be on time! Bring the paper on which you're working, as well as any related

drafts or notes, and information about the assignment. For an appointment, call the Writing Center at (312) 413-2206, or stop by room 105 of Grant Hall. Visit the Writing Center website at www.uic.edu/depts/engl/writing for more information.

Public Computer Labs are available throughout campus where you may write and/or print out your work. For a list of labs and the hours they're open, go to <www.accc.uic.edu/pclabs>.

The Academic Center for Excellence can help if you feel you need more individualized instruction in reading and/or writing, study skills, time management, etc. Phone: (312) 413-0031.

Counseling Services are available for all UIC students. You may seek free and confidential services from the Counseling Center <www.counseling.uic.edu>. The Counseling Center is located in the Student Services Building; you may contact them at (312) 996-3490. In addition to offering counseling services, the Counseling Center also operates the InTouch Crisis Hotline from 6:00 p.m.-10:30 p.m. They offer support and referrals to callers, as well as telephone crisis interventions; please call (312) 996-5535.