USCDornsife

Psych 301CL, Cognitive Processes
Units: 4
Spring 2024—TTH—12:00-1:50
Location: SOS-B2

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Course Description

This course introduces you to one of the most powerful and productive modern discipline for studying the human mind. From the perspective of computation and information processing, you will learn how the mind perceives, remembers, represents concepts, processes language, reasons, and makes decisions. Theoretical and empirical results introduced in this class are the foundation for understanding human behaviors and performance.

Learning Objectives

By the end of this course, you should be able to:
1. Describe the scope and goals of cognitive psychology.
2. Describe the major theories that have been developed in the core areas of cognitive psychology, such as visual perception, attention, memory, language, knowledge representation, reasoning, and consciousness.
3. Discuss the evidence that has been used to argue for and against these theories.
4. Describe the experimental methodologies that have been developed to gather evidence about cognitive mechanisms.
5. Articulate ways in which our scientific understanding of cognition impacts society and our daily lives.
6. Analyze and summarize original research on a topic in cognitive psychology.
7. Present meaningful summaries and critical analyses of research on a topic in cognitive psychology.

Prerequisite(s): PSYC-100

Course Notes

A course website at blackboard.usc.edu (Bb) will be used throughout the semester for dissemination of course materials such as announcements, homework assignments, lecture notes, grades, and additional readings. It is very important that you check the course website frequently. All homework assignments and lab reports must be submitted to Bb by Tuesdays at 11am. The preferred means of communication for all matters other than homework and lab report is through email to me and/or the TA. **IF YOU INCLUDE "PSYC301" IN THE SUBJECT LINE**, we will try to respond within 24 hours, if not sooner; if not, responses could be delayed. You can also contact us through Slack.

Technological Proficiency and Hardware/Software Required

This class includes lab sessions. Students are required to bring a laptop to class to run some of the experiments and look at the results as we discuss them in class. Please make sure that you can connect to the USC wireless network. If you do not have a laptop, you can borrow one for 4-hour blocks from ITS (https://itservices.usc.edu/spaces/laptoploaner/).

Required Readings and Supplementary Materials

- Reisberg, Daniel. *Cognition: Exploring the Science of the Min*d. (8th Ed.). The book is available as an eBook, loose leaf, or hardcover.
- ZAPS online labs. (Comes with the eBook version of the textbook.)

Description and Assessment of Assignments

Readings: The primary reading materials are the textbook. The classes will follow the textbook chapters, one chapter a week, and keeping up with the readings is required. You need to read each chapter and submit a reaction paragraph (see below) the following week about that chapter.

Quizzes: Short quizzes will be given to test whether you have read the assigned textbook chapter(s) and understood the basics. You will take the quizzes on Bb. Quizzes be graded instantly, and you will be provided with the correct answer. These quizzes constitute as sizable proportion of your grade.

Exams: Midterms and the final consist of mostly multiple-choice questions, with a few short essay questions. There will be two midterms (non-cumulative) and a final exam (cumulative, 2/3 new material).

Class participation: It is important that you participate intelligently and beneficially in class. To do so, you should read the textbooks before a lecture and bring with you good questions and insights. Bb will be used to take attendance.

Labs: This is a lab course (301**L**), in which the lab sessions are integrated with the lectures and take place during the regular scheduled class time. The labs in this course do not require a dedicated room, or any equipment other than your computer, ear buds/headphones (for a few labs), an internet connection, and the ZAPS online lab software (a subscriptions comes with the textbook). ZAPS labs are cognitive psychology experiments that you run on a web browser on your laptop. You access the ZAPS lab website through the "Textbook & ZAPS" navigation tab on Bb. All students will run the experiment during the lab session part of class, and the class results will often be collected and made visible immediately. Occasionally we will use experiments from a different website.

You are expected to run all the lab experiments assigned during the lab sections and doing so is part of your lab participation grade. Other activities related to the labs may include breakout group discussions, often with a small-scale deliverable project at the end (e.g., a group worksheet). These will also be considered in the lab participation portion of your grade. Please note that any in-class work related to labs that you do not complete because you missed class cannot be made up. See the section on class attendance for information about situations where attending class is not possible due to health reasons.

Lab Reports (LRs): Lab reports will be assigned for selected labs presented in class. You should study the material on ZAPS to get a better understanding of the experiment and what it was designed to test. A lab report should be turned in by the stated due date and time in Bb. For late submissions, see the policy stated below. Only 10 of your LRs will be counted toward your grade. You can skip 1 LR over the course of the semester.

Your lab report should include two sections: Results and Discussion. In the Discussion, you should:
1) provide an interpretation of the results in the context of the theory the experiment was designed

to test,
2) challenge this interpretation using aspects that the experiment did not address, and proposes a control experiment, and
3) answer at least one of the Discussion Questions in the lab manual.

The discussion section accounts for 70% of each report.

Reaction paragraphs (RPs): At the end of each chapter, you will be asked to write a short note, one or two paragraphs in length, about your reaction regarding the chapter just completed. Your reaction can be a quick summary of the material, comments about the subject area, or a critique of a particular theory or experiment. "I learned nothing from this chapter" is not an adequate reaction, but "I learned nothing from this chapter because the researchers studying X failed to ask the critical question, which I think should be Y" is. All reaction paragraphs will be turned in by the stated due date and time in Bb. Again, for late submissions, see the policy stated below. Only 10 of your RPs will be counted toward your grade. You can skip 2 RPs over the course of the semester.

Group Project: There will be a final class project which constitutes a large portion of the final grade for this class. The goal of the project is for students to investigate and analyze a real-world cognitive science project. Several project topics will be provided by the instructor. The class project includes a project proposal presentation (+ a short report), final project presentation, and a report. For project proposals, groups will present a problem which they want to analyze using the methods discussed in class. Each presentation should be about 5 mins. Each group also needs to submit a one-page proposal, discussing the scope of the project and the role of each member. For the final project presentation, each group will give a 10 min presentation on their project. Students are expected to spend at least 60 hours working on their final project. The project report will be 10-15 pages written in APA format. Students should form groups with 4-6 members. At the end of the written reports, there should be a section listing the contributions of each team member to the project. Below, you'll find the detailed schedule for group projects.

Stage	Due Dates
Submit group member list & topic choice	2/1
Project proposal presentations/reports	2/15
Submit a (preliminary) list of primary and secondary sources	3/7
Submit an outline of paper, including a thesis statement and line of argument	4/4
Final project presentations	4/23, 4/25
Final papers due	4/26

Research Participation: You can earn bonus points (extra credit) by serving as a subject in research conducted by faculty members of the Department of Psychology. You do this by signing up for research sessions on http://usc.sona-systems.com. Sign up only for studies related to cognition and for which you meet the eligibility requirements. If you are in doubt about whether an experiment qualifies as a cognition experiment, post the information to Slack and we will respond within 24 h (you can also check to see if someone else already asked about it). There may be only a small number of such experiments, especially this semester as fewer experiments will be available online. Therefore, you should start participating as soon as possible, and not wait till the end of the semester when you need the bonus points. (Although experiments may be added throughout the semester.) To obtain any bonus points, you must submit a single-paragraph summary for two of the experiments you participated in (so you must participate in at least two). You should briefly describe the task and, most importantly, the research question the experiment was designed to address. Ask the experimenter after the experiment if you are unclear about the purpose of the study. You will receive 1 extra credit point for each Sona credit. Extra credit is limited to 4 points.

Grading Breakdown

Assignment	% Grade
Reaction paragraphs	10
Lab reports	10
Attendance	5
Project proposal presentation	5
Final project presentation	5
Final project report	10
Quizzes	15
Midterm 1	10
Midterm 2	10
Final exam	20
TOTAL	100

Grade Distribution:

92.5-100%	A
90-92.49%	A-
87.5-89.99%	B+
82.5-87.49%	B
80-82.49%	B-
77.5-79.99%	C+
72.5-77.49%	C
70-72.49%	C-
67.5-69.99%	D+
62.5-67.49%	D
60-62.49%	D-
<60%	F

[Standardization of raw scores: if the class mean is less than a B- before considering the bonus points, the instructor will shift and scale the total score distribution such that the class mean is at B-. This means that (1) if such an adjustment is necessary to improve the overall class grade, a little over half of the class may get a B- or better before adding any bonus points; (2) the bonus points can add up to more than 4% to the students' curved grade, which is equivalent to about half of a grade.]

Assignment Submission Policy
All assignments are due on Tuesdays at 11am, and should be turned in through Blackboard.

Late Submission Policy
Late report/homework/projects are subject to penalty. Specifically, one additional day late will result in a 25% reduction in the total score, two additional days late will yield a 50% reduction, and no credit will be given for three or more additional days late. Late days are in units of days, not hours, so using up part of a day uses up the whole day.

Statement on the use of Large Language Models
Since creating, analytical, and critical thinking skills are part of the learning outcomes of this course, all assignments should be prepared by the student working individually or in groups. Students may not have another person or entity complete any substantive portion of the assignment. Developing strong competencies in these areas will prepare you for a competitive workplace. Therefore, using AI-generated

tools is prohibited in this course, will be identified as plagiarism, and will be reported to the Office of Academic Integrity.

Additional Policies
Exceptions such as make-up exams are rarely granted, and only for the extreme and unanticipated circumstances, serious and documented illness, and non-reschedulable school-related events (e.g. a sport tournament). For non-reschedulable school-related events, students need to let the instructor and the TA know at least two weeks before a midterm to arrange for a make-up exam.

Course Schedule: A Weekly Breakdown

	Topics/Daily Activities	Readings	Deliverable
Week 1 1/9 & 11	Preface. Introduction to Cognitive Psychology	Chap 1	
Week 2 1/16 & 18	Cognitive Neuroscience	Chap 2	RP 1
Week 3 1/23 & 25	Object Recognition	Chap 4	RP 2 & LR 1
Week 4 1/30& 2/1	Attention	Chap 5	RP 3 & LR 2 & List of group members + topic choice for final project
Week 5 2/6 & 8	Working Memory (part 1), Midterm 1	Chap 6	RP 4 & LR 3
Week 6 2/13 & 15	Working Memory (part 2), Project proposal presentations		Project proposal report
Week 7 2/20 & 22	Different types of memory	Chap 7	RP 5 & LR 4
Week 8 2/27 & 29	Memory of Complex events	Chap 8	RP 6 & LR 5
Week 9 3/5 & 7	Knowledge	Chap 9	RP 7 & LR 6, a (preliminary) list of sources for the project
Week 10 3/12 & 14	Spring Break		
Week 11 3/19 & 21	Lab Catch up, Midterm 2		RP 8 & LR 7
Week 12 3/26 & 28	Language	Chap 10	RP 9 & LR 8
Week 13 4/2 & 4	Judgment and Reasoning	Chap 12	RP 10 & LR 9, an outline of paper, including a thesis statement and line of argument
Week 14 4/9 & 11	Problem Solving	Chap 13	RP 11 & LR 10
Week 15 4/16 & 18	Consciousness	Chap 15	RP 12 & LR 11
Week 16 4/23 & 25	Final project presentations		Final project report
FINAL 5/8, 2pm	Final exam		

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

IMPORTANT: COVID-19 PROTOCOLS
Students must comply with all COVID-19 safety protocols outlined by federal, state, local, and university policies. These policies will likely evolve with the changing conditions of the COVID-19 pandemic and may include social distancing, the use of face coverings at all times, proof of vaccination, and regular COVID testing, among others.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call
studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298
equity.usc.edu, titleix.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776
dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support and Intervention - (213) 821-4710
campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
ombuds.usc.edu
A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.