

## Psychology 20A – Cognition: Fundamental Theories

Summer Session I, 2017

**Instructor:** Peter Krause ([peakraus@ucsc.edu](mailto:peakraus@ucsc.edu))  
Office Hour: Wed. 10-11AM, Social Sciences 2, Rm.103 (or by appointment)

**Reader:** Allison Allen ([alkallen@ucsc.edu](mailto:alkallen@ucsc.edu))

**Lecture:** Baskin Engineering, Rm. 372,  
MW 1-4:30PM  
June 26-July 26, 2017

**Deadlines:** Drop: Monday, July 3  
Withdraw: Friday, July 14

### OVERVIEW AND AIMS

#### General:

Human beings have remarkable abilities to perceive, remember, and make inferences about their world. Philosophers going back at least to Classical antiquity have asked probing questions about how people create, store, retrieve, and manipulate mental representations, and of the exact relationship between mental representation and objective reality. Following the Behaviorists' development of rigorous behavioral measurement methods, and the advent of the digital computer, the modern discipline of cognitive psychology emerged circa 1962. The last ~50 years have seen a wealth of important findings about such diverse mental processes as visual object recognition, autobiographical memory, and speech production. This course takes as its subject a broad survey of these findings. It serves as an introduction to the major sub-disciplines of our exciting field, as well as a primer on *how* cognitive psychology, as a scientific enterprise, is done.

#### Learning Outcomes:

A successful student will exit this course with knowledge of the following topics:

- Currently-relevant models of: visual and auditory perception, long-term and working memory, language, imagination, attention, and reasoning.
- Some of the key neuroanatomical structures implicated in the above processes.
- How modern researchers apply the scientific method to the organized investigation of mental processes.
- Common empirical measurement techniques in cognitive psychology, including both behavioral indices and neuroimaging methods.
- Metaphors of mind deployed in cognitive psychology, including information-processing, connectionist, and dynamical-systems-theory frameworks.

### TEXTBOOK AND MATERIALS

#### Text:

This course utilizes the following *optional but recommended* textbook:

Cognition (Ninth Edition) by Margaret W. Matlin and Thomas A. Farmer.

Copies of the book are available from Bay Tree Bookstore. Additionally, relatively inexpensive used and electronic copies are available online, including from Amazon. Exams will be written assuming access only to lecture slides and homework readings. However, this course is organized according to topics in the textbook, and reading the chapters will provide a secondary perspective on much of the same material. A good strategy is to *skim* the relevant chapter(s) *before* the lecture in which that material is presented, and then to conduct a more thorough reading *after* the lecture.

### **Journal Articles:**

Homework assignments will require reading research reports from behavioral science periodicals. The relevant articles will be supplied online through the course Canvas portal.

### **Lecture Slides:**

Each lecture will be accompanied by a set of PowerPoint slides. The evening following lecture, I will post the slides to the course Canvas portal. Lecture slides will always be posted *after* the relevant lecture, and not before.

### **Canvas:**

This course uses a Canvas portal for announcements, resources such as homework readings and lecture slides, and grade reporting. If you have difficulty accessing the Canvas portal, please let me know immediately.

## **EVALUATION**

### **Breakdown:**

Exams	70% (35% each)
Homework	15%
Attendance	15%
Extra Credit (4% possible)	
Research Participation	Up to 3%
Instructor Evaluation	1% <b>if response rate exceeds 75%</b>

### **Exams:**

This course includes two multiple-choice exams: one midterm taken in Week 3, and one **non-cumulative** final taken in Week 5. Students are expected to arrive prepared with a Scantron 882-E form and a #2 pencil.

### **Homework:**

Written homework assignments will be due on Thursdays in weeks 2, 3, and 4. Specific assignment prompts will be posted in the course Canvas portal. Assignments are expected to be about two typewritten pages. Each assignment will have two parts. The first will ask the student to imagine and briefly describe a hypothetical experiment for testing some prediction of a cognitive theory discussed in class. The second part will ask the student to summarize and evaluate/critique a real-life empirical study. The article reporting the empirical study will also be posted in the course Canvas portal.

**Attendance:**

Lecture attendance is mandatory, and whole-class and small-group discussions conducted during lecture will be integral to the course.

**Extra Credit:**

Up to 3% extra credit can be gained from participating in psychological research in the department. An alternate written assignment is also available. More detailed instructions for signing up using UCSC's SONA system, as well as information about the alternate assignment, can be found in the course Canvas portal.

Additionally, **all students** will receive 1% extra credit if **more than 75%** of the class completes their online instructor evaluation.

**Final Letter Grades:**

97.5-100%	A+
92.5-97.4%	A
90.0-92.4%	A-
87.5-89.9%	B+
82.5-87.5%	B
80.0-82.4%	B-
77.5-79.9%	C+
72.5-77.5%	C
70.0-72.4%	C-
67.5-69.9%	D+
60.0-77.4%	D
<60%	F

**COURSE POLICIES****Electronic Devices:**

Use of laptops, tablets, cell phones, and other related devices is not permitted during lecture (excepting disability accommodations). Research in cognitive and educational psychology clearly demonstrates that handwritten note-taking is more effective than note-typing, and that most adults cannot effectively multi-task. Further, using electronics may unnecessarily distract your classmates. Violating this policy will result in forfeiting class attendance credit for that lecture.

**Disability Accommodations:**

The DRC reduces barriers to inclusion and full participation for students with disabilities by providing support to individually determine reasonable academic accommodations. If you have questions or concerns about exam accommodations, or any other disability-related matter, please contact the DRC office, located in Hahn 125 or at 831-459-2089 or [drc@ucsc.edu](mailto:drc@ucsc.edu).

**Academic Honesty:**

Academic integrity is the cornerstone of a university education. Academic dishonesty diminishes the university as an institution and all members of the university community. It tarnishes the value of a UCSC degree.

All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC.

In the event a student is found in violation of the UCSC Academic Integrity policy, he or she may face both academic sanctions imposed by the instructor of record and disciplinary sanctions imposed either by the provost of his or her college or the Academic Tribunal convened to hear the case. Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a student's transcript.

For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Integrity page](#) at the [Division of Undergraduate Education](#).

**TITLE IX**

The university cherishes the free and open exchange of ideas and enlargement of knowledge. To maintain this freedom and openness requires objectivity, mutual trust, and confidence; it requires the absence of coercion, intimidation, or exploitation. The principal responsibility for maintaining these conditions must rest upon those members of the university community who exercise most authority and leadership: faculty, managers, and supervisors.

The university has therefore instituted a number of measures designed to protect its community from sex discrimination, sexual harassment, sexual violence, and other related prohibited conduct. Information, advice, referrals, and/or copies of the UC Policy on Sexual Violence and Sexual Harassment and the UC Santa Cruz Procedures for Reporting and Responding to Reports of Sexual Violence and Sexual Harassment are available to all students, faculty, and staff by contacting Tracey Tsugawa, Title IX/Sexual Harassment Officer, 105 Kerr Hall, 459-2462, or [ttsugawa@ucsc.edu](mailto:ttsugawa@ucsc.edu).

**SCHEDULE (subject to change)**

<b>06/26</b>	Introduction, Philosophy, History, Methods	CHAPTER 1
<b>06/28</b>	Visual & Auditory Perception	CHAPTER 2
<b>07/03</b>	Imagery & Representation, Categorization	CHAPTERS 7 & 8
<b>07/05</b>	Long-Term Memory, Midterm Review	CHAPTERS 5 & 6 (HW 1 DUE)
<b>07/10</b>	<u>MIDTERM</u> , Working Mem. & Exec. Function	CHAPTER 4
<b>07/12</b>	Attention & Consciousness	CHAPTER 3 (HW 2 DUE)
<b>07/17</b>	Language Perception & Production	CHAPTERS 9 & 10
<b>07/19</b>	Problem Solving & Decision Making	CHAPTERS 11 & 12 (HW 3 DUE)
<b>07/24</b>	Cognitive Development & Learning	CHAPTER 13
<b>07/26</b>	<u>FINAL EXAM</u>	