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Office hours: Wednesdays 4:30-5:30pm

Lecture meeting time: Monday and Wednesday 3:30-4:20pm  
Meeting location: A32 Peretsman-Scully Hall  

Precept meeting times: 9-9:50am, 10-10:50am, 11-11:50am, 1:30-2:20pm, 2:30-3:20pm, and 3:30-4:20pm.  
Precept location: A17 Peretsman-Scully Hall

**Registrar description:** The course will survey the major themes and experimental findings of Cognitive Psychology. We will address the question of how scientists probe the nature and underlying structure of human thought. Topics covered include attention, perception, imagery, memory, language, thinking, decision-making, and cognitive neuroscience.

**Format:** Each week we’ll tackle a different research field in Cognitive Psychology. Lectures will focus on fundamental principles garnered through classic experiments in Cognitive Psychology. Precepts will briefly review lecture material and focus on more recent studies.

**Readings:** You will be responsible for three sets of readings per week: assigned reading from the textbook, a foundational paper, and a more recent paper. The foundational papers will cover historical experiments (at the time groundbreaking) that have shaped our theories of cognitive psychology. The recent paper will be discussed in journal club format during precept, which will involve discussing the approach of the experiments, their findings, and the soundness of their interpretations. You are responsible for reading all the assigned reading.

Evaluation:

Midterm (25%) and Final Exam (30%): The midterm and final exam will be comprehensive, covering all lectures, precepts, and readings. It will feature multiple choice questions, short answer questions, and a longer format question(s). The longer format questions will focus on experiment design.

Precept Quizzes (20%): At the beginning of each precept, the preceptor will administer a short (less than 10 minutes) multiple choice quiz that will include questions regarding lecture and reading material. We will drop your lowest quiz grade.

Journal Club Paper Reviews (15%): You will need to turn in a review for each of the journal club papers. These reviews should answer the following questions:

1. What open question did the paper address?
2. Could the authors have addressed the problem in a different way?
3. How do the results support the author’s interpretation?
4. What is one problem with the paper? Or is there something you did not understand?
5. If you were one of the author’s, what would be your next follow-up experiment?
6. If you were a reviewer, would you recommend the article for publication? Four options: Accept, Minor Revision (no re-review), Major Revision (requiring re-review), Reject

The point of this exercise is for you to think critically about these experimental papers and by doing this exercise, you will have a number of points to discuss during precept. The review should only be one paragraph (one sentence per question). You will receive the maximum credit each week if your responses exhibit clear and thoughtful effort, half of the maximum for rushed or incomplete answers, and no credit if you fail to turn something in on time. We will drop your lowest journal club paper grade.

Participation (10%): The success and energy of the class depends on you! You should always feel free to ask questions, discuss something related that you know about, state an opinion, etc. You are not supposed to know or understand everything — this is the point of taking the course! — We think you will find that questions/ideas start popping into your head and that your shyness will fade as you participate more and more. We expect such discussions to happen organically, but to emphasize the importance of this aspect of the course you will receive a grade for participation in every precept, ranging from maximum credit for frequent contributions demonstrating thoughtful reading of the papers, to no credit for staying quiet and providing no evidence that you read the papers.

Missed class policy: Attendance in precepts is mandatory because there are weekly quizzes and for you to participate in lively discussions of the course material. If you know in advance (at least the day before) that you will miss a precept: 1) please let your AI know, 2) turn in your journal club paper review before midnight on Wednesday, and 3) visit any of our office hours to take the quiz. If you miss a precept without advance
warning, you cannot turn in the journal club paper review and you cannot take the quiz. Recall, that you are allowed to drop your lowest quiz grade and lowest journal club paper review grade.

**Weekly Schedule:**

**Week 1:** Historical Foundations  
February 2, 4  
*Nativism, Empiricism, Structuralism, Behaviorism, Information Processing*

**Week 2:** Perception  
February 9, 11  
*Direct perception, Constructivism, Bayesian Combination*

**Week 3:** Attention  
February 16, 18  
*Orienting, Search, Selective attention, Bottom-up vs. Top-down*

**Week 4:** Working Memory and Intelligence  
February 23, 25  
*Capacity Limitations, Primacy and Recency Effects, Memory Models*

**Week 5:** Semantic and Episodic Memory  
March 2, 4  
*Levels of Processing, Forgetting, Savings in Relearning, Context Dependency*

**Week 6: Mid-term Exam Week**  
March 9, 11  
*Monday (3/9) will be review and Wednesday (3/11) will be an in class exam.*

**Week 7:** Learning  
March 23, 25  
*Classical and Operant Conditioning, Reinforcement Learning, Statistical Learning*

**Week 8:** Knowledge, Concepts, and Categories  
March 30, April 1  
*Feature-based, Prototypes, Exemplars, Category Learning, Representations*

**Week 9:** Cognitive Control  
April 6, 8  
*Planning, Task Management, Attention and Selection, Monitoring*

**Week 10:** Judgment, Decision-Making, and Reasoning  
April 13, 15  
*Expected Utility, Biases and Heuristics, Prospect Theory, Temporal Discounting*

**Week 11:** Language  
April 20, 22  
*Phonology, Semantics, Transformational Grammar, Constructions, Evolution*

**Week 12: Action System and Embodied Cognition**  
April 27, 29  
*Internal Model, Optimal Control, Memory, Grounded Cognition, Action Perception*
**READING LIST**

**Week 1: Historical Foundations**

**Background Readings**

**Precept Reading**
Note, no journal club paper review due, but please attend precept to discuss the themes of these readings.

**Week 2: Perception**

**Background Reading**
Chapter 3: Visual Perception

**Precept Reading**

**Week 3: Attention**

**Background Reading**
Chapter 4: Attention and Consciousness

**Precept Reading**

**Week 4: Working Memory and Intelligence**

**Background Reading**
Chapter 5: Memory: Models and Research Methods
Miller GA. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *The Psychological Review.* 63(2):81-97

**Precept Reading**
Week 5: Semantic and Episodic Memory

**Background Reading**
Chapter 6: Memory Processes

**Precept Reading**

Week 6: Mid-term Exam Week

No readings, no assignments, just study!

Week 7: Learning

**Background Reading**

**Precept Reading**

Week 8: Knowledge, Concepts, and Categories

**Background Reading**
Chapter 8: Organization of Knowledge in the Mind

**Precept Reading**

Week 9: Cognitive Control

**Background Reading**

**Precept Reading**
Week 10: Judgment, Decision-Making, and Reasoning

**Background Readings**
Chapter 12: Decision Making and Reasoning

**Precept Reading**

Week 11: Language

**Background Readings**
Chapter 9: Language

**Precept Reading**

Week 12: Action Systems and Embodied Cognition

**Background Readings**


**Precept Reading**