

Cognitive Psychology (85-211)

GENERAL INFORMATION

- Instructor:* **Charles Kemp**
340T Baker Hall, ckemp@cmu.edu
Office Hour: Thursday 1:30–2:30 or by appointment in BH 340T
- Head TAs:* **Matt Lehet** (mil@andrew.cmu.edu)
Office Hour: Wed 1:00 – 2:00 in the Psych lounge (BH 336D)
- Casey Roark** (croark@andrew.cmu.edu)
Office Hour: Tuesday 12:00 – 1:00 in the Psych lounge (BH 336D)
- TAs:* **Sam Cheyette** (scheyett@andrew.cmu.edu)
Laura Gunsalus (lgunsalu@andrew.cmu.edu)
Aline Naroditsky (anarodit@andrew.cmu.edu)
Delancey Wu (delancey@andrew.cmu.edu)
- Class Schedule:* Tuesday & Thursday 10:30–11:50 in WEH 7500
- Units:* 9, which means that this course should occupy roughly 9 hours of your time every week (including 3 hours in the lecture theatre)
- Home Page:* <http://www.cmu.edu/blackboard>
- Textbooks:* Anderson, Cognitive Psychology and its implications, 7th or 8th edition
- Both editions are equally good for our purposes, and I recommend acquiring a used copy of the 7th edition. Page references will be given to both editions.
- Three copies of the Anderson book will be on reserve at the library.

OVERVIEW AND OBJECTIVES

How does the mind work? This course will consider how people perceive, learn, think and remember. Experimental findings and formal models will be discussed in each part of the course.

After finishing the course you should be able to:

1. Evaluate prominent theories of perception, attention, memory, knowledge representation, learning, language, problem solving, reasoning, and decision making, and recall key experimental results that support these theories.

2. Characterize the great debates in cognitive psychology, lay out the arguments presented by both sides, and defend your own positions on these matters.
3. Describe some of the ways in which cognition varies across cultures and across individuals.
4. Apply selected research findings to issues encountered in everyday life.

COURSE ORGANIZATION

Modules. The course is divided into two units: 1) Perception, Attention & Memory; 2) Language, Reasoning, and Higher Cognition

Lectures and Reading. The lectures provide the core content of the course, introducing key theories and research findings. The information covered in lectures is supplemented by readings from the textbook, articles posted online, and articles included in the homework assignments. An up-to-date list of the readings for each lecture will be posted on Blackboard. Not all material in the readings will be covered in the lecture, and vice versa, so it is important to keep up with both.

There will be a handout distributed at most lectures. Usually the handout is little more than an outline, and you will need to make your own notes that go beyond the information mentioned on the handout. Lecture slides and handouts will be available on Blackboard after each class. In some cases we may not cover a topic described on the handout – I will keep track of what we have and haven't covered and will keep this in mind when preparing exams.

Homework assignments. Each assignment will focus on a central theme in cognitive psychology. Readings for each assignment will be available from the course website. Homework assignments are due at the beginning of class on the dates mentioned on the schedule.

Papers. The papers will give you a chance to think in depth about the topics that interest you most. For the first paper, you will be asked to write about a cognitive psychology study that was recently covered in the media. For the second paper, you will be asked to write about some application of cognitive psychology. Before writing each paper you will need to submit a plan that describes the topic of your paper and lists the core references that you will be discussing.

Exams. There will be two in-class exams, one at the end of each unit. Each exam will involve a mix of multiple choice and short-answer questions, covering material from lectures and readings (both the textbook and homework readings). The second exam is cumulative but will focus more on the second unit than the first unit.

Piazza. The Blackboard site includes a link to Piazza. All class announcements will be posted on Piazza rather than Blackboard, so it's critical that you regularly check Piazza. The advantage of using Piazza is that you can post any follow-up questions you might have about an announcement.

Please also use Piazza for asking questions about course material and logistics. In most cases you should post your questions to Piazza instead of emailing me or the TAs directly --- that way other students can help to answer your questions, and the whole class can see the answers. If you see a question on Piazza that you're able to answer, please jump in and do so.

Discussion topics on Piazza are organized using tags called folders. There are folders for each homework assignment, for both papers, and for both exams. The `class_material` folder is for general questions about the content of the course (including material covered in class or in the readings). The `interesting_links` folder can be used to post information you come across that is relevant to the class and that might interest other students. The `logistics` folder is for questions about course logistics---for example, about due dates, or about where to find a given resource. If your question doesn't seem to fit into any of the folders, please post it anyway and use the `other` folder.

ASSESSMENT

Final Grade. Exams are worth 250 points each, and homework assignments are worth 100 points each. Each paper plan is worth 10 points and each paper is worth 240 points. The maximum combined score is 1400, and absolute grades will be assigned as follows:

A: 90% (1260)

B: 80% (1120)

C: 70% (980)

D: 60% (840)

R: Less than 60%

We will also compute a relative grade according to a curve. Your final grade will be the maximum of the two grades (absolute and relative).

Research Requirement. The Department of Psychology has a research requirement for all students enrolled in 200-level courses. To fulfill the requirement you can 1) participate in 3 experiments before the last day of classes; or 2) read a research article and answer a set of questions. Both options can be completed in around 3 hours. The research requirement will be explained on the first day of class. If you do not fulfill the research requirement, you will receive an incomplete in this course.

POLICIES

Quotes from the textbook/readings. Students occasionally answer homework questions by identifying the most relevant section in the reading and quoting (with attribution) a large chunk of text. Responding in this way does not qualify as plagiarism but is unlikely to earn you a good grade. Your responses should reflect your own way of thinking about the question – as a rule of thumb, any direct quote that you choose to include should be at most a few words long.

Turning in assignments. Homework assignments should be submitted electronically through Blackboard before 10:30 am on the dates mentioned in the schedule. Late assignments will be accepted before noon on the following day and will receive a penalty of 10%.

Turning in your paper plans and papers. Both kinds of documents should be submitted electronically through Blackboard before 10:30 am on the dates mentioned in the schedule. In addition, hardcopies of your papers (but not your paper plans) should also be submitted in class on the relevant dates. Late submissions will be accepted and will receive a penalty of 5% for each day that the submission is late.

Feedback and grading queries. We will provide answer keys for each homework assignment. If you believe that an assignment has received a grade in error, you may submit an appeal. Please write a cover letter explaining your concern and deliver it to me along with the assignment in question. Assignments submitted for an appeal will be regraded in their entirety. As a result, your grade may increase, but may also decrease. Exams will not be returned but will be available for inspection.

Written appeals can also be submitted after the papers are returned, and after the exams become available for inspection. All appeals must be submitted within 3 days -- for example, if you would like to appeal the grade for your first paper, please do so as soon as this paper is returned instead of waiting for the end of semester.

Cheating and plagiarism. You are responsible for knowing University policies on cheating and plagiarism, as defined in the CMU student handbook. Unless explicitly told otherwise, you can discuss homework, readings, and your papers with others. However, the final product has to be your own. Not just your own handwriting, but also your own way of explaining and organizing the ideas. Note that plagiarism *includes* making superficial changes (e.g., small additions, deletions, word substitutions, word order changes) to existing material. The idea is the intellectual property, not the specific format. Cheating and plagiarism will not be tolerated. ***If you are caught cheating or plagiarizing, you may be assigned a failing grade in the class.*** If you have any questions or concerns about whether your behavior could be interpreted as plagiarism, please contact the instructor before submitting the work!

Lecture notes. Copies of the slides will be provided on Blackboard after each lecture. The notes are only an outline, and will not contain all of the information presented in the lecture. For example, the lecture notes might pose a question, but you won't know the answer if you're not in class to find out. ***Reading the notes is not an adequate substitute for attending class!***

Electronic devices. To help everybody stay focused on the course material, please do not use devices (including phones, tablets and computers) in class unless you have requested and received an exemption from this policy. Some of the reasons for this policy are discussed at the following links

- <http://www.psychologicalscience.org/index.php/news/releases/take-notes-by-hand-for-better-long-term-comprehension.html>
- <https://medium.com/@cshirky/why-i-just-asked-my-students-to-put-their-laptops-away-7f5f7c50f368>

Accommodation of disabilities. If you need accommodation for a disability, please see the instructor within the first two weeks of semester.

Accommodation of religious creed. If completing an exam would in some way violate your religious creed, please see the instructor within the first two weeks of semester.

If you are falling behind: If you run into difficulties of any kind, please come and talk to Prof Kemp sooner rather than later. If you let me know about any issues as soon as they arise we can almost always figure something out. If you wait until the end of the term, it's much harder to find a solution.

CONTACTING US

Lecture slides, handouts, and assignments will be available on Blackboard. Course announcements and most other information will be available on Piazza.

For specific questions that are not answered on Piazza, feel free to ask us a question during class, or you can speak to us directly during office hours. You can also e-mail us to arrange a meeting outside of office hours. You can expect a reply within 48 hours, something to keep in mind as deadlines approach.

SCHEDULE

The schedule and readings below may change. Please check the course website for additional readings and for the most recent version of the schedule. The two sets of page numbers are for the 7th and 8th editions of the Anderson textbook.

Wk	Day	Date	Topic	Hwk
1	T	9/1	Introduction (p 1–5; p 1 – 3 plus box on p 5)	
	Th	9/3	Methods and the brain (p 10-15, 18-27; p 9 – 12; 15-22)	P1 out
2	T	9/8	Low-level vision (p 32–42, 61; p 27-35, 51)	H1 out
	Th	9/10	High-level vision (p 42–51, 61; p 35-42. 51)	P1 plan due
3	T	9/15	Visual attention (p 69–81; p 58-69)	
	Th	9/17	Auditory attention (p 63–69; p 53-58)	H1 due
4	T	9/22	Central attention (p 81–91; p 69-77)	H2 out
	Th	9/24	Visual and verbal representations (p 92–104; p 78-88)	
5	T	9/29	Sensory memory and short term memory (p 146–154; p 124-131)	
	Th	10/1	Episodic memory (p 166–172, 196–205, 207–208; p 141-145, 169-177, 179)	H2 due

6	T	10/6	Memory in the real world (p 172–174, 192–195; p 146-148, 165-169)	
	Th	10/8	Semantic memory (p 123–127, 131–136, 142–144; p 104-106, 109-114, 120-121)	P1 due
7	T	10/13	Unit 1 review. Please come with questions or thoughts that you'd like to discuss	
	Th	10/15	Exam 1	
8	T	10/20	Deductive reasoning (p 272–289; p 237-251)	H3 out, P2 out
	Th	10/22	Inductive reasoning (p 289–294, 300–309; p 251-255, 262-269)	
9	T	10/27	Decision making (p 312–320; p 271-279)	
	Th	10/29	Problem solving (p 209–239; p 181-209)	H3 due
10	T	11/3	Concepts and categories (p 136–138, 140–142; p 114-116, 118-119)	H4 out
	Th	11/5	Learning (see Blackboard for reading)	P2 plan due
11	T	11/10	Language (p 322–336; p 281 - 294)	
	Th	11/12	Language learning (p 343–357; p 300 - 311)	H4 due
12	T	11/17	Culture and Cognition (p 337–342; p 295 - 299)	
	Th	11/19	Individual differences (p 408 – 420; p 353 - 364)	
13	T	11/24	NO CLASS: THANKSGIVING WEEK	
	Th	11/26	NO CLASS: THANKSGIVING WEEK	
14	T	12/1	Extraordinary cognitive abilities (see Blackboard for reading)	P2 due
	Th	12/3	Cognitive Psychology and the Arts (see Blackboard for reading)	
15	T	12/8	Unit 2 review. Please come with questions or thoughts that you'd like to discuss	
	Th	12/10	Exam 2	