

Introduction to Cognitive Psychology

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Evanston Campus, Cresap 223
Office Hours: By appointment

Course Description: This course is an introduction to cognitive psychology. It will cover topics related to memory, reasoning, problem solving, human development, and language. The course will also address major historical and contemporary theoretical milestones in the field. The goal of the class is to provide you with a foundational understanding of cognitive psychology that will spark curiosity and foster skills that will help you to explore other questions related to human cognition. When finished with the course, you should be able to critically read and extract the core points of an empirical scientific article and be able to recognize cognitive themes in your everyday life.

Readings: All readings can be found on the Canvas website. Readings listed below each date should be read before that class.

Class Format: Most classes will adhere to the following structure: Lecture (105min), break (15min), and group discussion (60 min). Exam days will have a slightly different structure. More information will be given when we approach those dates.

Assignments and Grading:

Exam 1 (10/31)	30%
Exam 2 (12/12)	30%
Final Paper (due 12/13)	20%
Discussion Posts	15%
Participation	5%

Exams: There will be two in-class, closed-book, exams. They will not be cumulative, but you will be expected to apply some knowledge from the first half of the class on the second exam.

Final Paper: The final paper will be an 8-page experiment proposal about any topic covered in the course. It should contain an introduction, overview of experiment, and conclusion. More information will be provided as we approach the due date, **December 13th**.

Discussion Posts: Most weeks, in addition to the textbook readings, we will also read a scientific article. Before class that week, you will be expected to write a short discussion post (**approximately 2 paragraphs**) on Canvas. Discussion posts will be due each **Wednesday by 11:59 PM**. The discussion topic will be given in class the week prior.

Discussion posts will be graded on a 1 – 3 point scale using the following criteria:

3-points – Thought provoking and insightful post. Demonstrated a clear and thorough understanding of the material. Included fleshed-out paragraphs that fully explored the author's ideas.

2-points – Decent, but obvious or uninspired post. Had a broad understanding of the material, but showed some misunderstanding in certain areas. Paragraphs are adequate length, but some topics and ideas are not fully addressed.

1-point – The post did not address the given discussion topic. Showed a clear misunderstanding of the material. Paragraphs are bare-bones and do not elaborate on the author's ideas.

0-points – Given for posts that are not a good-faith attempt or are late. Late posts will not receive points.

At the end of the quarter, **your lowest discussion post score will dropped**. This means that only your highest scoring seven discussion posts will count towards your final grade.

Extra Credit: There will be no possibility of receiving extra credit assignments.

CLASS PLAN AND READINGS

- All readings will be on Canvas. If you have problems accessing materials, please let me know as soon as possible.
- We will use various chapters and papers. There is no need to buy a textbook.

Thur. 9/26 Introduction to cognitive psychology

Barsalou (1992), Chapter 1 (Optional)

Article: (No Reading)

Thur. 10/03 Memory and knowledge

Medin, Ross, & Markman (2005), Chapter 5

Medin, Ross, & Markman (2005), Chapter 6

Article: Loftus, E. F. (1975). Leading questions and the eyewitness report. *Cognitive psychology*, 7(4), 560-572.

Thur. 10/10 Mental representations: Concepts and categories

Medin, Ross, & Markman (2005), Chapter 10

Murphy, Chapter 3 (2002)

Article: Gelman, S. & Markman, E. (1986). Categories and induction in young children. *Cognition*, 23(3), 183-209.

Thur. 10/17 Cognitive development

Siegler & Alibali (2004), Chapter 8

Siegler & Alibali (2004), Chapter 9

Article: Gopnik, A. & Astington, J. (1988). Children's understanding of representational change and its relation to the understanding of false belief and the appearance-reality distinction. *Child Development*, 59(1), 26-37.

Thur. 10/24 Mental models, problem solving, and analogical thinking

Goldstein (2008), Chapter 11

Gentner (2002). Mental Models, Psychology of

Article: Loewenstein, J., Thompson L., & Gentner, D. (1999). Analogical encoding facilitates knowledge transfer in negotiation. *Psychonomic Bulletin & Review*, 6(4), 586-597.

Thur. 10/31 EXAM 1 & Final paper writing guide

Thur. 11/07 Reasoning

Reisberg (2010), Chapter 11

Manktelow (2012), Chapter 1

Article: Rips, L. (2001). Two Kinds of Reasoning. *Psychological Science*, 12(2), 129-134.

Thur. 11/14 Causal reasoning

Rips (2011), Chapter 3 (p. 119-143)

Manktelow (2012), Chapter 4 (p. 95-102)

Article: Fenker, D., Waldmann, M., & Holyoak, K. (2005). Accessing causal relations in semantic memory. *Memory & Cognition*, 33(6), 1036-1046.

Thur. 11/21 Thanksgiving break (NO CLASS)

Thur. 11/28 Language and numbers

Boroditsky, L. (2003). Linguistic relativity. In Nadel, L. (Ed.) *Encyclopedia of Cognitive Science*. MacMillan Press: London, UK, pages 917-921.

Gentner, D. (2016). Language as cognitive toolkit: How language supports relational thought. *American Psychologist*. 71(8):650-657.

Article: Gordon, P. (2004). Numerical cognition without words: Evidence from Amazonia. *Science*, 306(5695), 496-499.

Thur. 12/05 Culture and animal cognition

Burnett & Medin (2008). Chapter 47 - Reasoning across cultures

Seed, A., & Tomasello, M. (2010). Primate cognition. *Topics in Cognitive Science*, 2(3), 407-419.

Article: Cohen, D. (2001). Cultural variation: considerations and implications. *Psychological bulletin*, 127(4), 451

Thur. 12/12 EXAM 2

Final Paper (Formal Instructions)

The final paper should be either an experiment proposal or a short literature review. Regardless of which format you choose, the content should be related to some concept or theme in cognitive psychology. If you're unsure whether your ideas meet this requirement, feel free to come talk with me.

The purpose of this assignment is to (1) provide you with hands-on experience finding scientific answers to your own questions, (2) increase your familiarity with the structure of academic articles, (3) demonstrate that you have an understanding of cognitive principles, and (4) allow you to pursue your own interests as they relate to cognitive psychology. Related to this final goal, I highly encourage you pursue something that you're interested in and would like to learn a little more about. Try to make the most of the assignment!

The paper is due on **December 13th before 11:59pm**.

Requirements:

- Approximately 8 pages (not including reference page), double-spaced
- Minimum of 3 cited empirical articles
- Reference cited page (see Powerpoint on Canvas for how to get references)
- **Extra Credit:** Include 2 additional pages *and* 2 additional cited empirical articles to receive up to 10% more credit

Experiment Proposal Instructions

The experiment proposal should introduce an issue or unexamined consideration and propose a way of addressing it using some simple experiment. This needn't be anything complicated. It can be as simple as comparing two groups of participants using some metric (e.g., reaction times, preferences, score, etc.). Just try to do your best to ensure that your experiment addresses your chosen issue.

Structure your proposal similar to the academic articles we've been reading in class: Include an **Introduction**, **Methods**, and **Conclusion** section (there is no need for a Results section because you will not have data).

In the Introduction, describe the cognitive topic of interest and introduce the question you'll be addressing in your experiment. Be sure to clearly explain your chosen topic, even if it's something we've covered in class. Imagine explaining it to someone who has never taken Cognitive Psychology. When explaining terms and concepts, cite the appropriate sources. This is the section where most of your citations will be.

In the Methods, describe the details of your experiment. Describe what groups of people you're comparing, the experiment's procedure, and the materials you would need to give participants. Don't place much importance on the originality or significance of your experiment. It's not as important as the other aspects of this paper. (Note in the Grading section that the quality of your experiment is not graded).

In the Conclusion, talk about how the results of your experiment would be a meaningful contribution to cognitive psychology. Be sure to mention any broader application you think such findings would have. In addition, address other factors that you did not consider in the Introduction that may also be important. And don't be afraid to talk about weaknesses of your experiment!

Literature Review Instructions

The literature review should attempt to give a comprehensive review of a particular issue in cognitive psychology. Try to structure your review around different theories for the some psychological phenomenon. It is not enough to simply explain a concept or idea (e.g., "Categorical reasoning is...and this is how researchers have studied it"). Instead, you should seek to highlight a particular disagreement in the field. Be sure to explain why the debate is relevant and the pros and cons of each side of the debate (e.g., "Prototype theory and exemplar theory are two ways psychologists have studied categorical reasoning. Their weakness/strengths are...").

If you choose to do a literature review, I recommend first consulting a textbook or books on the subject before searching for articles. Books tend to be more theory oriented, and they will also give you an idea of which papers you should consider looking at.

If you would like further advise on the literature review, come speak with me.

Grading

For both experiment proposal and literature review, grading will adhere to the following rubric:

Item	Description	Grading Percentage
Basic Requirements	The paper is approximately 8 pages, double-spaced, and contains a minimum of 3 cited empirical articles.	25%
Grammar and Misc.	The paper is a finished product: Correct grammar, spelling, and punctuation. Sentences are complete and paragraphs are used appropriately.	10%
Cognitive Theme	The content of the paper addresses an appropriately cognitive concept/theme. Also, these concepts/themes are thoroughly, clearly, and correctly explained.	25%
Argument/Narrative Structure	The argument (experiment proposal) or narrative (literature review) follows a logical progression from start to end.	25%
Cited Work	The articles cited in the paper are relevant to the ideas addressed and are appropriately applied.	10%
Reference Page	The final page of the paper includes a list of all references used in the body of the paper. While format will not be graded, enough information should be provided so that I'm able to find the paper.	5%
Extra Credit	The paper is 10 pages long and contains a minimum of 5 cited empirical articles	10%

Tips

Here are some writing tips when it comes to writing academic articles:

- Do not plagiarize! If you're having difficulty using the correct language or explaining some idea, that might be a sign that you don't fully understand it.
- Express ideas in your own words; never quote. The only situation when quoting is appropriate is (1) when the author's ideas are so unbelievable you need proof and (2) when you're showing appreciation for gorgeous writing. Neither will be relevant for this assignment.
- Replace passive statements (e.g., "The apple was eaten by her") with active statements (e.g., "She ate the apple")
- Use simple language. Good papers should be difficult to read only because the content is complex, not because the language is obtuse.