

PSY 333A: Thinking

Fall 2025

Class: MWF 2:40-3:50pm in SCC 148

Labs: T 2:15-4:00pm in SCC 102

Instructor:

Jeff Coon

Office: Science Center 151

Email: coon@hanover.edu

Office Hours: MF 1:00-2:30pm, T 1:00-2:00pm, W 12:00-1:00pm ([Book Time](#))

Course Description:

Introduction to the higher mental processes, including attention, memory, language, and problem solving. Includes laboratory components and research projects. Prerequisites: 220 and either 162 or 164. Satisfies W2 ACE. Lab fee.

Course Overview and Format:

This course introduces the scientific study of how people think. We will examine how cognitive psychologists study (and what they have learned about) how we process, retain, learn from, and act on information from our environment. In class, we will use demos, activities, and lectures to survey key ideas and experiments, culminating in a midterm and final exam. In lab, we will learn to use cognitive experimental methods, culminating in an independent research project.

By the end of this course, you should be able to...

- describe and explain key subdisciplines and theories from the scientific study of thinking.
- apply knowledge of those subdisciplines, data, and theories to everyday life.
- use cognitive methods to run and analyze relevant experiments as tests of theories.
- use quantitative psychological methods to run an independent study and report results.

Course Materials:

1. Willingham D.T. & Reiner C (2019). *Cognition: The Thinking Animal*. Cambridge University Press. I've got the 4th edition, but anything slightly older or newer should be fine. **PLEASE REACH OUT TO ME IF THE TEXTBOOK WILL POSE MAJOR FINANCIAL ISSUES.**
2. Laptop with internet and JASP installed (<https://jasp-stats.org/download/>); bring to class
3. Word processing software with .pdf, .doc, or .docx files (no Apple formats or .odf)
4. Access to Canvas (<https://hanover.instructure.com>) and a Hanover email account. Be sure to check both regularly for course news and updates.

Course Requirements:

Lab Assignments - Reports will follow the IMRaD format. Most labs will take place over 3 weeks, with the first for running the experiment and writing the Methods section, the second for analyzing data and writing the Results section, and the third for writing the Introduction and Discussion sections. Also included in this category are a peer-review assignment in the first lab and a poster for the Memory lab.

Final Project - The last 4 lab sessions will be for you to design and run your own study. You will share your idea during lab, submit a project proposal, produce a standard lab report, and create a poster. You will get extra credit for presenting at a research conference. You may jointly present your idea, write a proposal, and create a poster, **BUT THE LAB REPORT SHOULD BE YOUR OWN WORK**. In addition to being its own grade, the lab report from your final project can replace your lowest passing (i.e., >60%) score on an earlier lab report. Your poster can also replace a lower passing grade for the poster from the Interleaved vs. Blocked lab.

Presentations - You will need to present and lead seminar-style discussions for 4 articles as part of a group of 2 or 3. These presentations will help build towards writing your lab reports because they will cover articles that you can meet the citation requirements for the Introductions. We will use them as workshops for how to incorporate the citations. Each presentation should be 15-20 minutes, followed by a 10-minute discussion with the class. You will need to come prepared with at least 3 questions to facilitate that discussion. You will get points for doing your own presentations and for contributing to the discussion around other groups' presentations.

Reading Questions - About every two weeks, submit 2 thoughtful questions about the readings. Typically due at 11:59pm on Friday so I can read them and address them in class on Monday.

Misc. Assignments - Completion-based credit for in-class activities that depend heavily on participation (e.g., experiments, demos, worksheets). Should end up being worth about 0.5% each (20 total).

For further details about assignments, consult the rubrics in Canvas.

Evaluation and Grading:

Lab Work: 29%

Final Project: 19%

Presentations: 36%

Reading Q's: 6%

Misc. Assignments: 10%

Grade	Points
A	93+
A-	90-92.9
B+	87-89.9
B	83-86.9
B-	80-82.9
C+	77-79.9
C	73-76.9
C-	70-72.9
D+	67-69.9
D	63-66.9
D-	60-62.9
F	0-59.9

Grades rounded to 1st decimal
(92.95 → 93; 92.94 → 92.9)

Late Policy: Lab reports can be accepted up to 5 days late (10% penalty/day). Posters can also be accepted up to 5 days late for the same penalty, but I will not be able to print late Final Project posters in time for extra credit from presenting it at the research conference.

Reading questions can be submitted up to 2 days late for -0.5 points.

Presentations, and misc. assignments cannot be accepted late.

Course Schedule:

	Topic	Reading Assignments	Due Dates
8/25	Scientifically Studying Thinking	Ch 1: Why make assumptions (3-7)	
Lab	Methods Review		
8/27	Behaviorism	Ch 1: The Response: Behaviorism (19-24)	
8/29	Cognitive Revolution	Ch 1: Failures of Behaviorism to Account for Human Behavior thru So What, Finally (26-35)	Methods Review due 8/29@11:59pm
9/1	Labor Day		
Lab	Interleaved v Blocked Experiment; Article Presentation (me)		
9/3	Mental Representations	Ch 1: The Computer Metaphor and Information Processing (28-30)	
9/5	Cognitive Neuroscience	Ch 2: Can We use neuroscientific data to test cognitive theories? (51-63)	Reading Q's 1 due 9/5@11:59pm
9/8	Studying Attention	Ch 4: What Happens to Unselected Stimuli? (112-118)	
Lab	Interleaved vs. Blocked Methods		Group A check-in
9/10	Divided Attention	Ch 4: In What Way is Attention a Limited Resource? (119-129)	
9/12	Article Presentation (1A)		Group A presents
9/15	Concepts and Categories	Ch 9: thru The Probabilistic View (229-239)	
Lab	Interleaved vs. Blocked Results		Group B check-in
9/17	Category Learning	Ch 9: Multiple Systems View (239-244)	
9/19	Article Presentation (1B)		Group B presents Reading Q's 2 due 9/19 @11:59pm
9/22	Organizing Categories	Ch 6: Hierarchical Theory thru Spreading Activation Models: An Example (173-181)	
Lab	Interleaved vs. Blocked Full Draft		
9/24	Faculty Workday		Interleaved v Blocked Report due 9/25@11:59pm
9/26	Interleaved vs. Blocked Poster		Interleaved v Blocked Poster due 9/28@11:59pm
9/29	Category Inferences and Essentialism	Ch 9: What is a Feature thru How Do Features Help Us Form Inferences (244-249)	
Lab	Blicket Detector Methods		
10/1	Communicating Category Information	Pragmatics 1 and Pragmatics 2 (Canvas)	
10/3	Causality		Reading Q's 3 due 10/3 @11:59pm
10/6	FALL BREAK		
Lab	FALL BREAK		
10/8	Makeup day		
10/10	Article Presentation (me)		

10/13	Midterm check-in		Group A check-in
Lab	Blicket Detector Results		Group B check-in
10/15	Article Presentation (2A)		Group A presents
10/17	Article Presentation (2B)		Group B presents
10/20	Mental Models	Causal Reasoning (Canvas)	
Lab	Blicket Detector Full Draft		
10/22	Social Learning		
10/24	Studying Decision Making	Straight Choices pp. 15-19 (reading 01) - stop at "A brief history of judgment and decision research" Straight Choices pp. 25-27 (reading 02) - stop at "Discovering information"	Reading Q's 4 due 10/24@11:59pm Blicket Detector Report due 10/26@11:59pm
10/27	Informed Decision Making	Straight Choices pp. 27-30 (reading 03) - stop at "Acquiring information" Straight Choices pp. 123-124 (reading 04) - stop at "Ambiguity aversion or ignorance aversion?"	
Lab	Plan Decision Making Project		Proposal due 10/28@11:59pm
10/29	Creativity and Expertise	Ch 14: How Experience Helps Problem Solving thru How Experience Hinders Problem Solving (365-376) Ch 14: How Do Experts Differ from Novices? (376-380)	IRB due 10/29@11:59pm
10/31	Prepare Article Presentations		Reading Q's 5 due 10/31@11:59pm
11/3	Adjusting Decisions	Straight Choices pp. 47-53 (reading 05) - stop at "Decision making in dynamic environments"	
Lab	Collect Data		Pairs A and B check-in
11/5	Faculty Workday		
11/7	Article Presentations (3A-1 & 3B-1)		Pairs A and B present
11/10	Work on article presentations		
Lab	Project Results		Pairs A and C check-in
11/12	Heuristics	Straight Choices pp. 71-75 (reading 06) - stop at "Are conjunction errors due to evidential support?" Straight Choices pp. 80-85 (reading 07) - stop at "The frequency effect"	
11/14	Article Presentations (3C-1 & 3A-2)		Pairs A and C present
11/17	Naturalistic Decision Making	Straight Choices pp. 55-58 (reading 08) - to end of chapter (including stuff before NDM section)	Reading Q's 6 due 11/17@11:59pm
Lab	Decision Making Poster		Pairs B and C check-in
11/19	Finish Poster		Project Poster due 11/19@11:59pm
11/21	Article Presentations (3B-2 & 3C-2)		Pairs B and C present
11/24	THANKSGIVING BREAK		
11/26	THANKSGIVING BREAK		
11/28	THANKSGIVING BREAK		
12/1	Project Report		
Lab	Poster Session		
12/3	Project Report		Project Report due 12/7@11:59pm
12/5	<i>Makeup day</i>		

Accessibility Services for Students with Disabilities:

Hanover College offers accessibility services to students with documented physical, visual, hearing, learning, or psychiatric disabilities. Any Hanover student is eligible for special services or accommodations if: 1) The student self-identifies that he or she has a disability and needs accommodation; 2) The student provides appropriate and verifiable documentation of the disability; and 3) The student provides notification in a timely fashion. For accessibility services, [Email Accessibility Services](#) or call 812-866-6836. The Accessibility Services (AS) office is in the Gladish Center for Teaching and Learning on the first floor of Duggan Library.

Nondiscrimination:

Hanover College is committed to providing equal access to its educational programs, activities, and facilities to all otherwise qualified students without discrimination on the basis of race, national origin, color, creed, religion, sex, age, disability, veteran status, sexual orientation, gender identity, or any other category protected by applicable state or federal law. An Equal Opportunity employer, the College also affirms its commitment to nondiscrimination in its employment policies and practices. In compliance with Title IX (20 U.S.C Sec. 1681 et seq.) Hanover College prohibits sex discrimination, including sexual harassment. For student related disability discrimination concerns, contact the Gladish Center for Teaching and Learning at 812-866-6840. For other discrimination complaints, including any arising under Title IX, contact the Title IX Coordinator at 812-866-6740 or the Deputy Title IX Coordinator at 812-866-7097.

Statement on Self-Care:

Your success in this course and throughout your college career depends heavily on your personal health and wellbeing. Stress is a common part of the college experience, and it often can be compounded by unexpected life changes outside the classroom. Your other professors and I strongly encourage you to take care of yourself throughout the term before the demands of midterms and finals reach their peak. Before circumstances and conditions become overwhelming, please don't hesitate to speak with me about any difficulty you may be having that may affect your academic performance. Please know as well that there are several support services on campus available to assist you, as needed. You can make appointments with Health Services by calling x-6102. Appointments for Counseling Services can be made online at any time through [MyHanover](#).

Health Services

Christy Ownbey, APRN, CPNP-PC, Director of Health Services
812-866-7082 or ownbey@hanover.edu

Gladish Center for Teaching and Learning

Katy Lowe Schneider, Associate Provost for Student Outcomes
812-866-7215 or lowe@hanover.edu

Katie Wood, Director of Gladish Center for Teaching and Learning
812-866-6847 or wood@hanover.edu

Counseling Services

Sara Crafton, Director of Counseling Services
812-866-7074 or crafton@hanover.edu

Campus Food Pantry

Rev. Catherine Knott, Ph.D
812-866-7087 or knott@hanover.edu

Ball Family Chaplain

Rev. Catherine Knott, Ph.D
812-866-7087 or knott@hanover.edu

Levett Career Center

Jenny Moss, Executive Director
812-866-7397 or mossj@hanover.edu

Academic Integrity/Honesty:

In the event of academic dishonesty, students will receive a 0 for the assignment at minimum. All instances of academic dishonesty are reported to the chair of the Student Academic Assistance Committee, and repeated instances of academic dishonesty will subject a student to additional penalties up to and including dismissal from the College as outlined in the College Catalog.

As stated in the Hanover College Principles, students, faculty, staff, and trustees of Hanover College seek to promote academic, personal, and moral growth within a safe, challenging, and responsive community. This includes a commitment to academic integrity. Violations of academic integrity have a broad impact on the College and will result in College review and action.

Academic dishonesty includes any action with the intent to deceive in order to obtain an unfair advantage, as well as any act of aiding and abetting academic dishonesty. The Hanover College statement on academic dishonesty may be found in the Catalog and in the Student Handbook.

Artificial Intelligence: Tools such as ChatGPT can be quite helpful and are not going away. However, those tools are best used by someone who can evaluate and critique the output. As is commonly said, “you won’t lose your job to AI, you’ll lose your job to someone who uses it better than you.” The primary goal of this class is for you understand key concepts in psychology. Anything you submit in this class needs to reflect your own thinking. If AI tools are helpful in developing and refining your thinking, that is an acceptable usage. If you are relying on AI to do the thinking for you (e.g., writing an essay), that is counterproductive in the long term and defeats the purpose of the class. As such, it will be considered academic dishonesty. If you have questions about appropriate use of AI tools, please come speak with me.