COGNITIVE PSYCHOLOGY

H-862-282 (121799)
Fall 2004
TTH 4:00-5:15
PHILADELPHIA UNIVERSITY
Hayward Hall 230

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Course Description:

This course involves the study of human information processing. Its topics include the history and methods of cognitive psychology, cognitive neuroscience, attention, knowledge representation, language, problem solving, decision-making, cognitive development, and human and artificial intelligence. Throughout the course are emphases on developing an understanding of how cognitive psychologists study the human mind and on appreciating the wonder, complexity, and creativity of the human information processing system. *Prerequisite: H801 Introduction to Psychology*

Course Goals:

• To develop an understanding of the scientific methods used in research on cognitive psychology.
• To become familiar with terminology and current knowledge relating to cognitive psychology.
• To strengthen your ability to think critically about theories and data in psychology.
• To understand cognitive psychology's findings and implications in the laboratory and the real world.
• To learn course material not only from the readings, laboratory exercises, assignments, and the instructor, but also through interactions with your colleagues.
• To learn to integrate multiple sources of information, including scientific journal articles, into a coherent presentation and paper.
• To come to share my enthusiasm for studying the human mind and behavior.

Required Texts:

- Sternberg, R. J. (2003). Cognitive psychology (3rd ed.). Belmont, CA: Thomson/Wadsworth.
- Francis, G., Neath, I., MacKwen, A., & Goldthwaithe, D. (2003). Student manual for CogLab. Belmont, CA: Thomson/Wadsworth.

Attendance:

Class time will be spent in a wide variety of learning activities designed to help you to understand, appreciate, and remember information about cognitive psychology. Some central findings of cognitive psychology show that learning and retaining information is best accomplished through active, frequent use of the material. Some of the material presented in class does not appear in the textbook, but will be covered on exams. Participation preparation assignments will receive credit only if you are present in class. Thus, attendance at all classes is expected and encouraged. Regardless of the reason for any absence, you are solely and completely responsible for obtaining information about the class meeting, handouts, etc. Additionally, you are responsible for any information I email to your PhilaU account.

Evaluation:

Reading Assignments: You are expected to do all reading assignments prior to coming to class. Keeping up with the reading is the single best way to do well in this course.

Exams: There will be two non-cumulative exams during the term and a cumulative final exam. The exams may be a combination of multiple choice, short answer, and essay questions, and will cover material from the readings as well as from class lectures, discussions, laboratory exercises, and assignments.

Lab Participation & Assignments: Throughout the semester, there are 11 computer-simulated experiments, of which you must complete at least 10. These will illustrate and reinforce major areas and findings in cognitive psychology. See handout for more details.

Lab Presentation and Paper: Students will work in small groups to present two of the labs to the class. Students will individually complete a paper describing each lab and relating it to course material. See handout for more details.

Participation Preparation Assignments: Throughout the semester, I will give small assignments designed to prepare you for interactive class activities. These might include finding information on the internet or in a research database, developing questions or comments about the reading assignment, etc. Together they are worth 20% of your final grade. Completing these preparatory exercises will greatly enhance the classroom experience for all of us. Students will rely on each other for their learning, so everyone must be actively involved. PPAs cannot be handed in late. If you must miss class for an excused reason, you may email me your assignment BEFORE class time.

Late Assignment/Missed Exam Policy: Except for documented health or family emergencies, all exams must be taken and all assignments must be turned in on the dates listed here (unless explicitly changed by the instructor). In the interest of fairness for all students, make-up tests will not normally be given and late assignments will be not normally be accepted. Any student missing an exam for any reason must contact the instructor within 24 hours. Make-up exams may differ in format and difficulty.

Students with Disabilities: Reasonable accommodations will be made for students with disabilities. It is the student's responsibility to notify the instructor and provide appropriate documentation.

Academic Dishonesty: Academic dishonesty (cheating) will not be tolerated. Any individual caught cheating or aiding another student cheating will receive an automatic F in the course and his/her name will be forwarded to the Office of Academic Affairs for further possible action (i.e., suspension or expulsion). If you find yourself even considering cheating, see it as a sign that you need assistance learning the course material and come see me. This policy applies to all

course exams and assignments: all work must be your own without assistance from others unless explicitly approved by the instructor. You are responsible for being familiar with and adhering to the University's academic integrity policy.

The final grade will be computed as follows:

	Weight
Exam 1	15%
Exam 2	15%
Lab Participation	10%
Lab Presentations & Papers	25%
Participation Assignments	20%
Final Exam	15%

A 93-100%	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 60-66.9%	F 0-59.9%

This syllabus represents the instructor's best estimate of course schedules, policies, and procedures. However, it may be changed at the instructor's discretion.

The Learning and Advising Center offers students professional assistance and peer tutoring tailored for their individual needs. Students should seek reading/study skills help when they are not getting enough out of their assigned readings or they feel that their study techniques are not as successful as they would like. Writing tutoring is available for all stages of the writing process. Professional Math and ESL tutoring is also available. Peer tutors are on duty to help in a wide variety of University courses.

Advisors for first-year students hold regular hours in the Learning and Advising Center. Upper level students are advised in their schools. Students should see their advisors when they are experiencing difficulty with a course, have questions about college policies, are planning to pre-register, are thinking about changing majors or taking a course at another college.

Learning and Advising Center hours are M, Th, F, : 9-5; Tu, W: 9-7.
Telephone: Tutoring: 215-951-2799; Advising: 215-951-2730
Website: www.philau.edu/learning

Expected Class Schedule

WEEK	DAY	DATE	TOPIC	READING
1	T	8/31	Introduction to the course & to Cognitive Psychology	
	Th	9/2	Fundamental Issues in Cognitive Psychology	Ch 1 pp. 1-13
2	T	9/7	Research Methods in Cognitive Psychology *Coglab data due: brain asymmetry*	Ch 1 pp. 13-29
	Th	9/9	Cognitive Neuroscience	Chapter 2
3	T	9/14	Cognitive Neuroscience	
	Th	9/16	Cognitive Neuroscience	
4	T	9/21	Cognitive Development *Coglab data due: mental rotation*	Chapter 13
	Th	9/23	Cognitive Development	
5	T	9/28	Cognitive Development *Coglab data due: attentional blink* *Coglab data due: visual search* *Coglab data due: Stroop effect*	Journal article
	Th	9/30	Exam 1	Ch 1, 2, 13
6	T	10/5	Attention & Consciousness	Ch 3 pp. 65-90
	Th	10/7	Attention & Consciousness	
7	T	10/12	Memory Models & Methods *Coglab data due: encoding specificity* *Coglab data due: memory span* *Coglab data due: serial position*	Chapter 5
	Th	10/14	Memory Models & Methods	
8	T	10/19	Memory Processes	Chapter 6
	Th	10/21	Memory Processes	
9	T	10/26	Memory Processes *Coglab data due: word superiority*	
	Th	10/28	Exam 2	Ch. 3, 5, 6
10	T	11/2	Language Development	Ch 9 pp. 305-316
	Th	11/4	Language *Coglab data due: risky decisions* *Coglab data due: Wason selection task*	Chapter 10
11	T	11/9	Language	
	Th	11/11	Decision-Making	Ch 12 pp. 403-418
12	T	11/16	Reasoning	Ch 12 pp. 419-442
	Th	11/18	Reasoning	
13	T	11/23	Reasoning	
	Th	11/25	Thanksgiving – no class	
14	T	11/30	Human Intelligence: Traditional Views	Ch 14 pp. 483-494
14	Th	12/2	Human Intelligence: Alternative Views	Ch 14 pp. 503-511
15	T	12/7	Artificial Intelligence	Ch 14 pp. 511-524
15	Th	12/9	Course Conclusion	
16			Final exam during finals week	Ch 9 (305-316),10,12,14

INFORMATION ABOUT COGLAB AND LABORATORY ASSIGNMENTS

Research is the foundation of cognitive psychology. Any true understanding of cognition from a psychological viewpoint must be based on an understanding of the nature and findings of research. CogLab is a series of computer-simulated experiments demonstrating central findings in cognitive psychology. Work with these exercises comprises a major part of this course and 30% of your grade. These exercises will help you to learn first-hand what cognitive psychological research is really like. This will also provide data from the entire class so that we can obtain results for each experiment.

LAB PARTICIPATION:
Due dates for participating in each lab are listed below ("Data due date"). All students must complete 10 of the 11 labs. Due dates are not negotiable. This work will constitute 10% of your final grade.

#	TOPIC	EXPERIMENT	DATA DUE DATE	PRESENTATION DATE
1	Neuroscience	Brain Asymmetry	Sept. 7	(Dr. McElwee)
2	Cognitive Development	Mental Rotation	Sept. 21	(Dr. McElwee)
3	Attention	Attentional Blink	Sept. 28	Oct. 7
4	Attention	Visual Search	Sept. 28	Oct. 7
5	Attention	Stroop Effect	Sept. 28	Oct. 7
6	Memory	Memory Span	Oct. 12	Oct. 26
7	Memory	Encoding Specificity	Oct. 12	Oct. 26
8	Memory	Serial Position	Oct. 12	Oct. 26
9	Language	Word Superiority	Oct. 26	Nov. 11
10	Reasoning	Risky Decisions	Nov. 4	Nov. 23
11	Reasoning	Wason Selection Task	Nov. 4	Nov. 23

STEPS FOR COMPLETING THE LAB EXERCISES:

1. Go to www.coglab.wadsworth.com

2. Click on the experiment you wish to perform.

3. Read the directions, then enter the ID you have been give in class (it should look like PHILAU-X, with X being a different number for each student). You must capitalize "PHILAU" or it will not work. Enter the password you received in class. (Note that you can change your information by clicking on "access your account" under "Students" on the first web page.)

> The first time you access the system, it will also ask for the registration number included on your student manual. If you have a used student manual, this number probably will not work because someone used it before. Therefore, all students must have a new student manual.

4. Follow the directions and participate in the experiment. Please complete the activities to the best of your ability; this will improve the quality of your own learning and of the data the class will use to learn about these concepts.

5. When you are finished, CogLab will automatically save your data. PRINT OUT A COPY OF THE RESULTS PAGE THAT POPS UP THAT SHOWS YOUR DATA. You will find this useful to have when we review the experiments in class. Additionally, it will serve as evidence of your completion of the lab in case of a technical problem.

6. On your results printout, make some notes about your experience of the lab: what did you do? did you find it easy or difficult? why? did it seem valid to you? What questions or comments do you wish to bring up when we discuss the lab in class? You will not turn in this page; it simply helps to jar your memory to enhance our class discussion.

An additional 20% of your final grade will be comprised of your exploration of two of the above labs in more depth. You will work collaboratively with a small group of classmates (approximately 3 people) to present to the class the rationale and results from two labs.

STEPS FOR COMPLETING THE LAB PRESENTATIONS AND PAPERS:

1. Read the relevant section of the CogLab Student Manual.
2. Participate in the on-line experiment.
3. Read the relevant section and chapter in your textbook.
4. With your group, select one journal article that relates to your topic. It could the original article that first described such an experiment, or it could be a more recent update on the topic. It must be a serious scientific article describing a study (or summarizing numerous studies) from a professional psychological journal. It cannot be from popular sources such as Newsweek or Psychology Today. It is expected that everyone in the group will read the same article. Good sources for finding an article include the reference sections of the text and student manual as well as searches of library databases. You will have practice obtaining an article prior to your presentation.
5. Get your article approved by Dr. McElwee at least one week prior to your presentation date. THIS IS REQUIRED.
6. Discuss the article with your group members and relate it to the on-line experiment.
7. Obtain the class data from the CogLab website. On the main site, click on "access your account" under the "Students" button.

You can obtain the group data there. Do not get the data until after the due date for the class' participation in the experiment has passed.

8. With your group, complete a presentation that explains to the class: the overall content area of the experiment; the specific rationale and hypothesis for the experiment; the methodology; the results; the implications of the results for the topic of cognitive psychology; a summary of your journal article; how the lab relates to the journal article that you read. Note that while your presentation needs to contain these components, they may be in a different order than listed here, depending on your rationale. You should provide a HANDOUT – MAXIMUM TWO PAGES PER GROUP to the class that summarizes this information. It is expected that every student will speak for one part of the presentation. STRONGLY REFCOMMENDED: DO NOT just divide the work into thirds and then show up on presentation day! It will be a disaster!
9. INDIVIDUALLY, write a paper, approximately 5-6 pages: the paper will include a summary of the experiment and its results, a summary of the journal article, and your integration of the results from the study into course material (relate the results to material from your journal article and the textbook). Make sure you address the question, "Who cares? How does this information help us understand human cognition?" EACH STUDENT MUST HAND IN HIS OR HER OWN WORK – THE PAPER IS NOT COLLABORATIVE. Make sure papers are typed and clearly and professionally written, including introduction and conclusion sections, transitions between topics, etc. Be sure to use your own words and not plagiarize the CogLab manual or the journal article you read.

I will be happy to meet with you to assist with any aspect of this project.

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Student topic interest form

DUE THURSDAY, September 2

When indicating topic preferences, you may want to consider the due date as well as your own interest. You might review the relevant sections of the textbook, the CogLab Student Manual, and the CogLab website to help you decide.

RANK TOP 4 CHOICES	EXPERIMENT
	Attentional Blink
	Visual Search
	Stroop Effect
	Memory Span
	Encoding Specificity
	Serial Position
	Word Superiority
	Risky Decisions
	Wason Selection Task