

LEARNING AND COGNITIVE PROCESSES (PSY 404-901 33631), DRAFT SAT, MAR 27, '4

Course Web Site: <https://oll.depaul.edu/>

Class meets: Monday at 5–8 PM, in Byrne 452

Please note. This syllabus is written using WordPerfect and then converted to pdf format (which makes it look better than I were convert it to Word). To read or print it you will need to use Adobe Acrobat Reader which you may already have on your computer — or download it free from <http://www.adobe.com/products/acrobat/readstep2.html>

I. PURPOSES OF COURSE

- (a) This survey course considers such topics as: the role of computers, conditioning and learning, perception, attention, memory, and thinking. Most topics will be presented in terms of an Information Processing (I-P) analysis, which attempts to specify the sequence of mental steps involved in cognition.
- (b) We will also consider other issues, among them, subjective, physiological, and evolutionary perspectives. For example, people adopt subjective interpretations and beliefs about world events and such interpretations influence other cognitions. As another example, our textbook argues that cognitive theorizing is improved by considering the physiological bases of behavior.
- (c) This is a graduate course that assumes you have had prior course work in Psychology, at least comparable to Psy 105 & 106. In the past, students who have not had prior course work have had difficulty in this class.

We will be using “Blackboard” in this class, which is an integrated course web site that includes a variety of teaching tools: online course materials, discussion groups, email, chat rooms,... and a class calendar. You will find online access to course outlines and posted grades at Blackboard: <https://oll.depaul.edu> in the “Course Documents” section.

II. TENTATIVE EVALUATION PROCEDURES.

A. *Two grading options.*

Around the middle of the quarter you should decide how you want to be graded, depending on whether you do an optional project (e.g., a paper or a class presentation). The optional project allows you to consider more closely some interesting aspect of cognitive psychology. Also, the optional paper gives you extra credit to compensate for low performance on one of the exams. The following are examples of the type of projects that were done by previous students (in no particular order): How multimedia can be used to facilitate different learning processes, Cognitive Therapy for Depression, Mental Models as related to HCI, False Memory, Critical periods, Experimental Designs of Short-term and long-term forgetting theories, Self-efficacy and its effects in training settings (i.e. training at work), Attention Shifting in the Visual Field Attentional Dysfunction, The possible link between ADD/ADHD and Creativity.

Grades will be weighted differently depending on your decision.

- (a) Option 1: Midterm exam (30% of the course grade) and Final exam (30%), Three or four brief position papers (10%), and optional Project (30%).
- (b) Option 2: Midterm (45%) and Final exam (45%), and Three or four brief position papers (10%).

The exams will involve both multiple-choice and essay questions and will cover material from assigned readings and class. Except in the case of clear emergencies, late exams or assignments cannot be accepted. Late assignments should be turned in within three working days on returning to class.

B. *How to study for the exams*

- (a) Outlines of the textbook chapters are available on the Blackboard web site in the “Course Documents” section. These outlines were prepared by me (Tracy) also contain occasional comments or criticisms on the chapters.

- (b) Follow the PQ4R procedure presented in the text, summarized on pp. 5-6.
- (c) Some related suggestions: Write study questions for each lecture and assigned chapter. Design your questions so that by answering them, you will be sure that you know the material covered. For each question, study by listing or outlining points that you would include in your written answer. Review with another student by asking and answering each others' study questions. Give each other feedback.
- (d) Concentrate your study on information that was presented in both text and class, but pay special attention to material that I have emphasized in class even if it was not covered in the text. You may place less emphasis on — but don't neglect — information that was presented only in the text. Material presented only in the text is likely to appear in multiple-choice questions. Material presented in class will likely appear in essay questions. Lecture and presentation topics will not always follow the text closely.

C. Brief Position papers, 10% of the course grade

A position paper is a brief paper (usually 1-2 pages long) in which (a) you take a position on a topic you feel is important (b) based on presented material which is (c) supported by example or evidence. Three position papers are assigned, due according to the calendar below. On the day that a position paper is due, come to class (attendance is required) prepared to discuss.

You may choose any topic you want, selected from assignments or lectures, including a topic that would be useful to know about for the next exam. Or you could even pick a topic that was *neglected* in the text or class, but you should provide sufficient explanation or documentation to insure that I understand your topic. There are topics on cognitive psychology worth considering that are not adequately covered in the class or text.

On a sheet of paper type an accurate summary of the topic covered in text or class (showing that you've understood the material), and take a position on that topic. Your opinion should be supported by a clear positive or negative example or evidence. Your position paper should not be a summary or outline of the reading assignment. It should not be like a book report. You will receive the maximum grade on your position paper if you provide the following information. Please use the following headings.

- (a) **Summarize**. You accurately summarize the topic as it was covered in text or class.
- (b) **Your Position**. Give your position. You can take any position on any topic, even if you disagree with what was presented in the text or class. It might be a good idea to choose a topic that you could use in the major paper project (see above) or a topic that you think will help you prepare for the next exam. You could also pick a topic that you think needs further clarification.
- (c) **Example or evidence**. Give at least one clear positive or negative example or evidence to support the point you are making. You can use evidence or examples from the text or class, or from your own experience.
- (d) An acronym from a rearrangement of the above headings spells YES: Your opinion, example or evidence, and summary. YES indicates maximum credit. If you are consistently satisfactory on these position papers, you will receive an "A" for that part of your grade, which is worth 10% of the course grade.
- (e) Position papers must be typed double-spaced, with 1 ½ inch margins, roughly three paragraphs long. Papers will be evaluated for content and writing quality. They should be well-organized, and free of grammatical errors and misspellings. To help you in organizing your paper, use appropriate headings in your paper, such as: Summary, My Position, Example or Evidence. Each paper should also have an appropriate title.
- (f) Send your position paper by email to me at rtracy@condor.depaul.edu by one hour before the class when the paper is due. Please use the course number (Psy 404) in the subject line of

your email to help me keep track of your submittal. Be sure to send a copy to yourself as proof that it was submitted on time.

- (g) Also prepare a paper copy to bring to class for reference during discussion and to hand in. During class, I plan to list some of the discussion topics on the board so that we can select which to discuss first. Attendance is required for class discussion.

D. Optional Project (Class presentation or term paper)

– General suggestions for projects

Your project can deal with any topic related to “cognitive psychology” which I define more broadly than is done in the text. Examples of successful student projects are listed above. You will need to go beyond the assigned readings and get relevant material from the library.

You could present a theory, a methodological issue, or a research question. You could also present a proposal for a study, verify some empirical results already published, or apply findings or theory to some practical problem. Your project could be an expanded position paper (discussed above).

- (1) It's a good idea to present and clearly support at least one main thesis (*pro*), and consider at least one antithesis or *con* positions, an important, credible, opposing position(s). The antithesis should not be merely a “straw man” that is presented to make the thesis position look good. Try to present a current (modern) version of the thesis and antithesis — not out of date versions.
- (2) For your thesis and antithesis positions, support your ideas with reasoned explanations, examples and evidence. Try to cite at least 4-5 journal articles to support your arguments. If there is no available empirical evidence, explain why this is so. Personal (introspective) examples that support your arguments communicate well with your audience provided that your audience agrees with them. It is best not to rely entirely on introspective examples because introspections can be wrong. Empirical evidence is often more convincing than introspective examples.
- (3) Try to creatively synthesize or reconcile the thesis and antithesis positions. This might be accomplished by describing the conditions under which the thesis is correct and the conditions under which the antithesis is correct. Or you might decide that your initial antithesis position is the one you end up accepting, with the initial thesis being less important. This can happen, for example, if the evidence for your initial antithesis is stronger than evidence for your initial thesis.

– Teams

Students may do a project alone or in teams. If you team up with others, I need to know the division of labor on the project, indicated on the paper you turn in. Also the project should not be presented as if it were written by individuals who did not know what the other individuals were thinking. There should be a synthesis of the various topics that members contribute, which summarizes and reaches conclusions. I'm sure that you realize that the more people who work on the same project, the more there will be to synthesize (and the more likely there will be some schedule incompatibilities), but possibly the more interesting the paper.

Here are some possibilities on how teams could be formed. You could organize yourselves into specialties of Clinical, Industrial-Organizational, Experimental Psychology, and Computer-Human Interaction. Or you may want diverse specialties to be represented within a discussion group. Or organization could be according to interest in a topic. The later two approaches often produce the most interesting projects.

– Special instructions for doing a class presentation.

Reservations for a class presentation will be on a first-come-first-reserved basis, submitted to me by email beginning on the day following the midterm. Reservations should include a

one-paragraph description of the project, indicating the question that your project will address (not the details) and how it might be conducted, and give some indication of who else will be working on the project. Let me know the date that you want to present. You should also prepare discussion questions and commentary (approximately 1-2 pages long) to be distributed via e-mail to class members by Thursday prior to the presentation. The presenter(s) should try to answer these questions during their talk.

– Students who are in the audience for a class presentation

They should prepare a question for discussion, e-mailed to me in advance of the presentation.

– Paper projects

The project paper is due by the last class session, approximately 8-15 pages, 1 ½ inch margins. I want a printed hard-copy and also an E-mailed copy. Be sure also to E-mail yourself a copy of the paper you hand in. Provide a self-addressed, postage-paid envelope if you wish to have your paper returned. For students doing a joint paper with other students, be sure to let me know how the labor was divided.

E. No cheating or plagiarism.

Plagiarism includes copying any source either entirely or in part or paraphrasing without proper acknowledgment. Plagiarism could result in a Failure grade in this course and possible expulsion from the University. If you have questions or doubts about what plagiarism involves or how to properly acknowledge source materials and the works of others, consult with me or see the handbook of the Liberal Studies Program, **Writing in Liberal Studies** (I didn't find it online). Also check out the Student Handbook:
<http://condor.depaul.edu/~handbook/code17.html>

III. HOW I CALCULATE YOUR GRADE .

I average the letter grades for all of your course assignments. The following example does not correspond exactly to this class, but it illustrates my approach. Suppose you receive a "B" for **Exam 1**, an "A" on **Exam 2**, an "A" on **Exam 3**, and an "A-" for the **Position Papers**.

These grades are weighted as follows: (Exam 1) 25%, (Exam 2) 25%, (Exam 3) 40%, and (position papers) 10%. The letter grades are converted to numbers using this scale:

F-	F	F+	D-	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

The course grade is computed by multiplying each scale value by the appropriate weight and summing the products, for example:

$$(B * 25\%) + (A * 25\%) + (A * 40\%) + (A- * 10\%) = \\ (10 * .25) + (13 * .25) + (13 * .40) + (12 * .10) = 12.15$$

Which is an "A-" using the grading scale. If your grade falls exactly on a boundary between two letter grades, you will receive the higher grade. Let me know if you have any questions about this grading system. This grading system averages grades similar to the way the university calculates your grade point average, except my grading scale involves whole numbers which makes the math a little easier.

The university grading system does not have D- or A+ grades, so a "D-" grade in my class converts to a "D" grade and an "A+" grade converts to an "A" grade on your transcript.

IV. UNIVERSITY EVALUATION OF ACHIEVEMENT

A, A- means excellent achievement.

B-, B, B+ means superior achievement.

C-, C, C+ means satisfactory achievement.

D, D+ means poor achievement. "D" or "D+" grades will not fulfill the requirements in a student's major field of concentration.

F means failure to meet minimum achievement.

IN is a temporary grade indicating that the student has a satisfactory record in work completed, but for unusual or unforeseeable circumstances is prevented from completing course requirements by the end of the term. Permission for an "IN" grade requires the instructor's permission. An "IN" grade must be removed before the end of the following term. Responsibility for its removal rests entirely with the student. Failure to do so automatically reduces the grade to an "F."

PA means passing achievement in a "pass-fail" course.

W is automatically recorded when the student files for withdrawal through their home college or school before the date designated in the academic calendar for such a withdraw.

A. Tentative schedule of readings is based on the text:

Anderson, J. R. (2000). Cognitive Psychology and its Implications (5th Edition). New York: Worth Publishers. ISBN 0-7167-3678-0. This book should be in the bookstore.

ASSIGNMENT SCHEDULE (TENTATIVE)

April 2004						
S	M	T	W	T	F	S
	29	30	31	1	2	3
4	<u>5</u>	6	7	8	<u>9</u>	<u>10</u>
<u>11</u>	12	13	14	15	16	17
18	<u>19</u>	20	21	22	23	24
25	<u>26</u>	27	28	29	<u>30</u>	1

May 2004						
S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	<u>10</u>	11	12	13	14	15
16	17	18	19	20	21	22
23	<u>24</u>	25	26	27	28	29
30	<u>31</u>					

June 2004						
S	M	T	W	T	F	S
		1	2	3	4	5
6	<u>7</u>	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Mon Apr 5, position paper 1 is due.

Sun Apr 9-11, Easter Holidays, no classes.

Mon, Apr 12, last day to drop w/ 100% refund.

Mon, Apr 19, position paper 2 is due.

Mon, April 30, MPA convention.

Mon, May 3, Midterm Exam

Mon, May 10, position paper 3 is due.

Fri, May 14, Last day to withdraw

Mon, May 24, position paper 4 is due.

Mon, May 31, Memorial Day, no classes

Mon June 7, Final Exam

I. WEEK 1 (MON, APRIL 5)

Other important dates and deadlines can be found on the University Calendar at:
<http://pres.depaul.edu/calendar/>

- Read: Chapter 1, The Science of Cognition.

Check out your Blackboard account at: <https://oll.depaul.edu>

To read material posted on Blackboard, you will need to have the (for free) [Adobe Acrobat Reader](#) installed on your computer.

- Read an introductory chapter on Learning

Which will be placed on reserve in the psychology office. Pages 188-225 from Kalat, J.W. (1999). Introduction to Psychology. Brooks/Cole * Wadsworth: Detroit, ISBN:0-534-35578-1.

- Class:

Lecture overview of Learning and Cognitive Psychology. Some of this overview is not covered in the assigned readings. Class lectures may lag behind the textbook assignments for a couple of weeks.

II. WEEK 2 (MON, APRIL 12)

- Read: Chapter 2, Perception

III. WEEK 3 (MON, APRIL 19)

- Read: Chapter 3, Attention and Performance

Also read the chapters on reserve in the Psychology office from Reed's (1996) text, specifically Chapter 1, pp.1-10, Ch. 2, pp.33-38, Ch. 3 (all on Attention).

In Reed's (2000) text, the relevant pages are Chapter 1, pp.1-11, Ch. 2, pp.34-39, Ch. 3 (all on Attention).

IV. WEEK 4 (MON, APRIL 26)

- Read: Chapter 4, Perception-based Knowledge Representations

V. WEEK 5 (MON, MAY 3)

- Read: Chapter 5, Meaning-based Knowledge Representations
- Midterm Exam: Mon, May 3

VI. WEEK 6 (MON, MAY 10)

- Read: Chapter 6, Human Memory: Encoding and Storage

VII. WEEK 7 (MON, MAY 17)

- Read: Chapter 7, Human Memory and Retrieval
- Read: Chapter 8, Problem Solving

VIII. WEEK 8 (MON, MAY 24)

- Read: Chapter 9, Development of Expertise

IX. WEEK 9 (MON, MAY 31)

- Monday May 31 Memorial Holiday, University Closed
- Read: Chapter 10, Reasoning and Decision Making

X. WEEK 10 (JUNE, 7)

- Read one of the following chapters (you pick): Chapter 11, Language Structure; or Chapter 13, Individual Differences in Cognition

FINAL EXAM: MONDAY JUNE 7, 5-8 PM.