COGNITIVE SCIENCE Psy430/530
Fall 2006 - SYLLABUS

INSTRUCTOR:
Dr. Jagdeep Kaur-Bala
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OFFICE HOURS:
Monday: 11:00 am – 12:00 pm
Wednesday: 11:00 am – 12:00 pm
& by appointment

GENRAL COURSE DESCRIPTION:

The objective of this course is to provide you with an introduction to the interdisciplinary field of cognitive science. This course draws on perspectives from many different fields including philosophy, psychology, neuroscience, artificial intelligence, and linguistics. We will summarize the major theories of mind from each of these perspectives, as well as their unique approaches and methodologies for study. In addition, we will critically evaluate each field, listing the advantages and disadvantages of its theories. As such, we will emphasize a broad coverage of important concepts rather than detailed analysis of any single area. Ideally, this course will lead you to understand the commonalities, as well as the differences, among the various approaches to cognitive science.

COURSE FORMAT:

A. Two 80 min classes each week – lecture cum discussion time
In addition to the formal classroom periods, you will also be exposed to Cognitive Science through:
B. Assigned readings from textbooks.
C. Guided Discussions in study groups.
D. Reading of a primary scientific paper and writing a critically evaluative report on its content.

REQUIRED TEXT:

1) **Friedenberg, J., & Silverman, G. (2005). *Cognitive Science: An Introduction to the study of Mind.*** *Sage Publicaitions*. Easy to read, well illustrated comprehensive text with emphasis on interdisciplinary approaches. Ideal for the multidisciplinary approach of this course.

Recommended texts:

1) **Harre R., *Cognitive Science: a philosophical introduction. (2002)*,** Sage Publication.

2) **Thagard P., Mind: An Introduction To Cognitive Science, 2nd Edition (2005)** MIT Press.

Course Website:

The official course website is on Blackboard (http://blackboard.uoregon.edu, PSY 430/530 (FALL 2006; 16460,17634), COGNITIVE SCIENCE). Please notify me if you have difficulty logging into the site. This site will provide supplemental information for the course (announcements, deadlines, course outline, grades, etc.).

GRADING POLICY

Final grades are based on consistent performance through the term. As such, the final grade will include the weighted scores for the quizzes, the term papers, study group discussion responses and the exams. Graduate students (Psy530 class) will also undertake an additional self-study assignment and prepare a presentation for class that will also be graded. In addition, some opportunities for extra-credit will also be available to all. **Letter grades will be determined as follows: A (90-105% of total possible points), B (80-89%), C (70-79%), D (60-69%), F (0-60%).** However, the instructor reserves the right to relax (but not stiffen) this criterion, depending on the actual distribution of grades.

- *Exams* – 20% of final grade each
- *Quizzes –* Off the 6 quizzes (5 MCQs each), scores from the your highest- scoring 4 quizzes form 15% of final grade (10% for graduate students)
- *Term Paper* – 15% of final grade
- *Class presentation* (graduate students only) – 10% of final grade
- *Study group discussion responses* - 10% of final grade (5% for graduate students)
- *Extra-credit (optional)* - +5 points towards final grade

TESTS

Quizzes: (15% or 10% for graduate students)

Short quizzes will be given in the first 10 minutes of class some days (see the course schedule). Quizzes will contain 5 multiple choice questions that pertain to the most recently presented lecture material. Questions will occasionally be drawn from readings that have been assigned but may not yet have been discussed in the lectures; however, these questions will be of a more general nature and should be easily answered. Of the 6 quizzes, the 2 with the lowest scores will be dropped, with the total score of the remaining four yielding 15% of the final grade. No make-up quizzes will be offered; if you miss a quiz, that grade will be one of the two that will be dropped.

Exams: (20% each)

Exams primarily test conceptual understanding. The exams will be part multiple choice, part fill-in-the-blank/match the information and part short answer/short essay. The exams are not comprehensive and cover only the material since the previous exam. There will be three exams with equal weights. The third exam will be taken during the last class period. Please bring a number two pencil with you on exam days. **No make-up exams will be given without a valid, excused absence** – *if you know in advance that you cannot take all exams on the appointed dates (see the course outline), do not take this course!* If unforeseen circumstances during the term prevent you from taking an exam, notify the instructor immediately. Allowable excused absences are executive orders/ court orders, medical emergencies and athletic events such as away games for student athletes. All such occasions must be accompanied by official documentation. Make-up exams may be essay-type.

READING ASSIGNMENTS:

Term Paper: (15%)

A prerequisite to gaining scientific knowledge of any sort is the ability to read and critically evaluate the primary scientific literature. The goal of this assignment is to help you develop these essential skills.

Read and report on one *primary* scientific paper during the term. Due *beginning of second class of week 9 (Nov 22nd)* The key here is "primary" - Be sure to read an ***experimental paper*** written by those who performed the work rather than reviews. Papers can be on any cognitive science-relevant topic from any primary journal. My suggestion is that you choose a paper from a recent journal such as *Cognition Cognitive Neuropsychology Cognitive Psychology Journal of Cognitive Neuroscience Journal of Cognitive Psychotherapy Social Cognition* Other journals can also be used. *Nature* and *Science* are also good sources of interesting papers. Since you might have inadvertently chosen a paper that is too difficult, check with me or your TA first before you get too far into it. You may also find it useful to read other papers related to the one you are reading. The most useful papers are generally those cited in the references. ***Review articles are not appropriate. Copy of front page of the article with your name/ID due beginning of the second class of week 2 (Oct 4th).***

For this assignment you are required to ***write a short paper*** (5 – 7 pages; double-spaced, 1 inch margins, 10-12 point fonts) ***which at the very least, specifically and fully answers the following questions in order:***
1. What is the title of the paper/lecture, who is the author(s), and where was it published (journal, volume, page numbers, year)?
2. What is the major scientific issue addressed by the paper? What is (are) the specific question(s) asked by the paper/lecture?
3. What work has been done previously on this topic?
4. What were the technique(s) used in the paper?
5. What was the experimental design for each experiment? Include all controls and explain why they were necessary?
6. What were the results for each experiment?
7. What did the author(s) conclude from the results? Are their conclusions justified?
8. Based on these results, what experiments should the researchers do next?
Important note: *ALWAYS keep a copy of your paper, either on disk, or a hard copy!*

Study group discussion responses: (10% or 5% for graduate students)
We will form 5-6 member study groups in order to have some contact time outside the class in which course work maybe discussed and small assignments completed as a group. The study groups will be expected to meet once a week and 4 discussion reports will be due during the term. For each report, I will give you specific things to get done and will be looking for those things for the evaluation or grading. All members of the group will receive the same grade for the assignment.

Sometimes, group members feel that not everyone in the group is working to their best and so it is not fair for everyone in the group to receive the same grade for an assignment. If such is the case for your group, you can choose (as a group) to award individual grades for the report. *If* the group decides that it is not fair that every person receives the same grade for a particular report, I will let the group decide on grades for each member. For example, if the group grade on a particular assignment is 85 and there are 5 members in the group, the group will have a total of 425 points (85 times 5) to spread among its members. The group can then negotiate with all members and spread out the total points to all members in any way the group sees fits, as long as all members agree to the point spread. ***The only requirement is that the group negotiates who gets what grade and that all members of the group give me a written agreement to the point spread. It will***

be the responsibility of the group to notify me of the point spread if they wish to use this alternative.

Class Presentation: (10% - graduate students only)
You will be required to give a **15 minute**, in-class presentation on a topic in cognitive science that interests you most. This should be accompanied by a short essay on your topic, as well as copies of any supporting slides/overhead transparencies that accompany your talk. The topics for your presentation are due ***beginning of the first class of week 3 (Oct 9th).*** Accompanying write-up and copies of slides, overheads, etc. are ***due on the day of your presentation.***

Of necessity, the class presentations will be spread out through the term; some presentation will have to take place earlier in the term than others. Dates of individual presentations will be decided by the instructor/TA. In addition, while assessing/grading the presentations, we will be sure to keep in mind the amount of time (into the term) each student got for preparation of this assignment.

What about extra credit?
You can earn **up to 5 points** in extra credit for **Class Participation**. These points will be **added to your final grade** at the end of the class. So, if you get an 80% with all of your work, and you earn 4 points of extra credit, your final score will be 84%.

Participation is based on *attendance* and *discussion*. Attendance will be taken during some class periods. All students who sign attendance during that class and ones with excused absences will be awarded EC points. In addition, the instructor will, at other times, award extra-credit for participation in class activities / discussions. It is important that you come to class. Many of the exam questions come from lecture content that is not in the assigned readings. If you miss a class, please try to get a copy of the lecture notes from a classmate. Allowable excused absences are executive orders/ court orders, medical emergencies and athletic events such as away games for student athletes. All such occasions must be accompanied by official documentation.

Students with Disabilities: If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor as soon as possible. Also, please request that the Counselor for Students with Disabilities (Molly Sirois, sirois@uoregon.edu, tel. 346-1073, TTY 346-1083) send a letter verifying your disability.

Students for whom English is a Second Language: If you are a non-native English speaker and think you may have trouble in this course due of language difficulties, please see the instructor as soon as possible to make special arrangements.

Academic Honesty: All work submitted in this course must be your own. For the consequences of academic dishonesty, refer to the Schedule of Classes published quarterly. Violations will be taken seriously and are noted on student disciplinary records. If you are in doubt regarding any aspect of these issues as they pertain to this course, please consult with the instructor before you complete any relevant requirements of the course. (For more information, see the UO web site regarding academic honesty at: http://studentlife.uoregon.edu/duck_guide/academic_honesty.html .

COURSE OUTLINE:

This is only a *working draft* of the course outline; it will be revised (with input from the class and as necessitated by the discussions) as the term progresses. **Dates on which particular topics are to be presented in lecture are subject to change, as are reading assignment dates; however, I will not change the dates of quizzes, exams or term paper deadlines unless absolutely necessary.** The official updated version of the outline will reside on the Blackboard web site. Updated print versions can also be obtained from me during regular office hours.

	Date	Topics	Readings	*Due Dates* / Tests
wk1	25-Sep	Syllabus, Intro to Cog Sci	Ch. 1	
	27-Sep	Approaches to Cog Sci	Ch. 1	
wk2	2-Oct	Philosophical approach I	Ch. 2	*Study Group Report (SGR)1 Due* Quiz 1
	4-Oct	Philosophical approach II	Ch. 2	*Term Paper topic due*
wk3	9-Oct	Psychological approach I	Ch. 3	Quiz 2
	11-Oct	Psychological approach II	Ch. 3	*SGR 2 Due*
wk4	16-Oct	Exam I		Exam I
	18-Oct	Cognitive approach I	Ch. 4	
wk5	23-Oct	Cognitive approach II Psy530 Presentations	Ch. 5	
	25-Oct	Neuroscience approach I	Ch. 6	Quiz 3
wk6	30-Oct	Neuroscience approach II Psy530 Presentations	Ch. 6	*Term Paper (draft) due for peer editing SGR 3 Due*
	1-Nov	Network approach Psy530 Presentations	Ch. 7	Quiz 4
wk7	6-Nov	Evolutionary approach	Ch. 8	*Edited term papers due*
	8-Nov	Exam II		Exam II
wk8	13-Nov	Linguistics approach	Ch. 9	
	15-Nov	Artificial Intelligence I	Ch. 10	Quiz 5
wk9	20-Nov	Artificial Intelligence II / Psy530 Presentations	Ch. 11	*Submit Term papers SGR 4 Due*
	22-Nov	Robotics / Psy530 Presentations	Ch. 12	*Submit Term papers* Quiz 6
wk10	27-Nov	Interdisciplinary methods	Ch. 13	*Submit Term papers*
	29-Nov	Exam III		Exam III
wk11	4-Dec	*Term papers due*		