

Psychology 20: Cognitive Psychology

Version 03/28/02

Spring 2002

Baxter Lecture Hall, MTuW11-12

Prof. Colin Camerer mail code 228-77

phone (626) 395 4054 Baxter 301B

camerer@hss.caltech.edu

Office hours 1-2 MTuW or by appointment

secretary: Karen Kerbs x4089 Baxter 332 kkerbs@hss.caltech.edu

TA's: Dan Clendenning (clendenn@hss.caltech.edu)

This is an introductory course in cognitive psychology. Cognitive psychology is the field of psychology concerned with how people think, as an underpinning to theories of behavior. The textbook is John R Anderson, Cognitive Psychology and Its Implications (5th Edition, 2000), available in the bookstore. There is also a packet of readings (available Friday 5 April from Karen Kerbs in Baxter 332). We will work through most of the book, and also use some additional readings I will distribute in class at the beginning of the term. Grades will depend on two homeworks (15%), a final (35%) and (35%) a short paper (≤ 8 pages, 12-pt font 1.5 spacing) on a topic of your choosing. The course cannot be taken pass/fail. The paper is due in the last week and should either expand on a topic discussed in class that you wish to explore further, or explore a topic we did not cover but which is germane. The paper should review a primary literature (i.e., read some scientific journal articles) and discuss what has been learned in that area, what motivated the types of studies, what the open questions are, and why the problem is important.

The Ma 112 prerequisite is waived.

week	dates	Topic + readings	Chapters
1	4/1-3	Intro: How cognitive psychology is done, and why it matters	1
2	4/8 4/12	Perception & pattern recognition + neural nets (note: I will be away 4/9-10 and will have a 2-hour makeup class 4/12 location TBA) Attention and performance (hearing, seeing, automaticity)	2, KR 3
3	4/15-17	Perceptual representations (mental imagery, mental geography)	4
HOMEWORK #1 DUE FRIDAY 4/19 NOON (CFC mailbox Baxter 1 st floor or Baxter 332)			
4	4/22-24	Meaningful representations (meaning & memory, semantic nets, schemas, categories, numerical cognition)	5, CM, GG
5	4/29-30, 5/1	Memory (long term memory, levels of processing, retrieval)	6-7, Ru, LAT, Lo, GMS

6	5/6-8	Problem-solving, expertise & mental models	8-9, Mc
7	5/13-15	Language	11-12, Du

HOMEWORK #2 DUE FRIDAY 5/17 NOON (CFC mailbox, Baxter 1st floor or Baxter 332)

8	5/20-22	Reasoning, logic, judgment, social cognition (conditionals, probability)	10, Ad
9	5/28-29	Decision-making & emotion	10, GVT, TK, ST, EK
NOTE: May 27 is Memorial Day Holiday			
PAPER DUE Wed 5/29 11 a.m.			
10	6/3-5	Decision-making & emotion (cont'd)	

SENIOR FINAL OUT NOON, M 6/3, DUE NOON W 6/5
 NONSENIOR FINAL OUT NOON, M 6/10, DUE NOON W 6/12

Additional readings (available Fri Apr 5 from Karen Kerbs Baxter 332):

- KR Knowledge representation (chapter 6)
- Ru Rugg, Michael D. "Memories are made of this" Science August 1998
- LAT LA Times, "Watching the mind at work" October 1998
- ABC ABCNEWS.com "Chilling mistake"
- Lo Loftus, 'The reality of repressed memories'
- GMS Greenwald, McGhee and Schwartz, "Measuring individual differences in implicit cognition"
- CM Crick & Mitchison, 'The function of dream sleep'
- GG Gallistel and Gelman, 'Nonverbal numerical cognition: From reals to integers'
- Mc McCloskey, 'Intuitive physics'
- Du Dunbar, "Coevolution of neocortical size, group size and language in humans" BBS
- KF Kahneman and Frederickson, "Attribute substitution..."
- ST Shafir & Tversky, 'Decision making' (chapter 3)
- Ad Adolphs, "Social cognition and the human brain"
- GVT Gilovich, Vallone & Tversky, 'The hot hand in basketball...'