

Human Attention

Course Syllabus, Summer 2004

Course: PSYCH 134A

Code: 68065

Summer Session I: June 28–Aug 4, 2004

Room: SSL 270

Times: MWF 3:00–4:50 p.m.

Credits: 4

Prerequisites: Psychology 7A or 9A-B-C

Course website: <http://www.socsci.uci.edu/~apetrov/teach/attn/>

Main textbooks:

Johnson, A. & Proctor, R.W. (2004). *Attention: Theory and Practice*. Sage Publications.

Pashler, H. E. (1998). *The Psychology of Attention*. MIT Press. (Available on-line from CogNet at <http://cognet.mit.edu/library/books/view?isbn=0262161656>)

Additional readings:

Pashler, H. E. (Ed.) (1998). *Attention*. Psychology Press. (Selected chapters)

Articles from *Annual Review of Psychology* and *Nature Reviews Neuroscience*, to be announced on the course web site and made available to the students in pdf format.

General Information

This course reviews and discusses methods of research, current data, and current theories in the field of human attention. It is intended for undergraduate students with basic knowledge in cognitive psychology (prerequisites PSYCH 7A or 9A-B-C). Some questions we will consider are: What is attention? What are its manifestations and its functions? Its neural basis? What experimental techniques are used to study attention? What are the practical applications of this research? The course is multidisciplinary: centered on cognitive psychology but also drawing on neuroscience, computational modeling, and human factors. The class activities will include lectures, demonstrations, guided discussions, and brief (5-minute) student presentations. Reading materials of reasonable length (typically one textbook chapter) will be announced and made available at least one week prior to each class. Study questions will also be provided to guide you while you read the material. Please come prepared to answer the study questions in class, critique the experiments and theories, and lead a general discussion on these topics. The objective is that by the end of the course the students are familiar with the major empirical and theoretical results in the study of attention, understand the evidence behind these findings, and are able to discuss them with their peers and with the instructor.

Grading

Your grade will be based on three measures: class participation (20%), a mid-term exam (30%), and a final exam (50%). The mid-term exam will cover the material from the first six classes and the final exam will cover the material from the entire course. The exams

will consist of multiple-choice and/or short-answer questions. The grading policy and the detailed format of each exam will be announced in class at least two weeks prior to the exam date. There will be no make-up exam papers.

Academic Honesty

Cheating or plagiarism will not be tolerated. Anyone caught cheating will receive a zero on the exam (for the midterms this will amount to about a two letter-grade drop on the final grade) and a letter describing the event will be placed in his or her academic file. See http://www.senate.uci.edu/9_IrvineManual/3ASMAppendices/Appendix08.html

Course Calendar

1. M 6/28 – Introduction and orientation. Varieties of attention
2. W 6/30 – Selective auditory attention
3. F 7/02 – Selective visual attention
4. W 7/07 – Orienting, eye movements, and hemispatial neglect
5. F 7/09 – Visual search. Divided attention
6. M 7/12 – Attentional set: Having advance information
7. W 7/14 – **Mid-term exam**
8. F 7/16 – The saliency map: A computational model of stimulus-driven attention
9. M 7/19 – Attention and inhibition
10. W 7/21 – Top-down attentional control, vigilance, and automaticity
11. F 7/23 – Central processing limitations in sensorimotor tasks
12. M 7/26 – Filters, limited resources, and selection: Theorizing about attention
13. W 7/28 – Elective topic(s), depending on student interests:
 - Memory and attention
 - Disorders of attention
 - Crossmodal attention
 - Brain areas involved in stimulus-driven and goal-directed attention
 - Individual differences in attention
 - Human factors: Situation awareness, attention, and displays
14. F 7/30 – Elective topic(s) II
15. M 8/02 – Review and preparation for the final exam
16. W 8/04 – **Final exam**

Notes: The above calendar is subject to change to meet the needs of the students and/or to accommodate extraneous constraints or circumstances. A brief informal questionnaire will be given during the first class to assess the background of the students. The topics for classes 13 and 14 will be based on the interests and preferences of the students.

Finally, welcome to the course. I hope that you will enjoy the class and learn valuable information and skills. I look forward to seeing you on June 28.

— Alex Petrov