

516 Spring 2016

SYLLABUS

Course Objectives & Requirements

There are two major objectives in this course. The first is to introduce you to findings in the broad area of cognitive-based learning, which in this course will focus on theories and findings in Attention and Memory. The second is to help train you to read and evaluate technical work. Accordingly, you will be assigned book chapters, but also technical articles (including some well-known foundational articles) as primary sources. We will spend time evaluating competing claims, not only with respect to whether a particular theory or model sanctions the set of predictions generated by the experimenter (or whether a particular model adequately represents a theory), but also with respect to whether the experimental methodology is clean enough that alternative explanations of the results remain unlikely. Thus, the second objective requires depth rather than breadth: sufficient familiarity with the minute details of an area that determine confidence in theoretical description. To that end, I want you to start thinking like a scientist: to be able to put any particular article to a rigorous test of adequacy, and to be capable of coming up with proposed solutions for research that fails such a test. Accordingly, part of the course requirements will include not only sending me brief overviews of the assigned articles focusing on what strikes you about each, but also a research proposal. In addition to the proposal, however, there will be a midterm and a final. Each will have a take-home component (most likely having to do with an article I will assign to you), although there may also be an in-class short-essay component.

Finally, the course will sometimes involve a lecture component on my part, but will also involve a seminar component on your part in which I will ask everyone to read certain articles, but for which specific students will have the responsibility to lead the discussion on certain articles, paying attention to possible extensions, methodological problems, alternative theoretical interpretations, etc.

Tentatively, I expect to be physically present for about a third of the classes, and to skype with you for the other classes. Dean Kellman has graciously offered Liberal Art's videoconference facilities, so on those days, you will go to his conference room for the class.

Text: Radvansky, G., *Human Memory*. 2011 (2nd. Ed.). Boston: Allyn & Bacon.

Emergency Evacuation Procedure

A map of this floor is posted near the elevator marking the evacuation route & the Designated Rescue Area. This is an area where emergency service personnel will first look for individuals who need assistance in exiting the building. Students who may need assistance should identify themselves to the teaching faculty.

Services for Students with Disabilities

There is free, confidential help on campus for students with disabilities (Learning Disabilities, Physical Disabilities, Psychological Disabilities, and/or ADHD). Please contact ODS located in the Conference Center, Room 126 in person or at 482-5252 or ods@louisiana.edu. You can also visit the ODS website (<http://disability.louisiana.edu>) for information on ODS services and on eligibility requirements. Also note that there is free confidential help on campus for students with psychological disabilities (Bipolar,

Depression, Anxiety, etc.) at Counseling & Testing, OKA, or at 482-6480.

Readings

Any changes in specific readings will be announced in advance of each topic. To start with, however, we will have an orientation on methodology and some important techniques. Then, we will look at how attention affects learning and memory. And from there, we will move on to different types of memory and findings.

Readings I (Week One) - Orientation & Some Methodological Issues

From the text: Chapters 1 & 3

Sternberg, S. (1969). The discovery of processing stages: Extensions of Donder's method. *Acta Psychologica*, 30, 276-315. (You can find this on Saul Sternberg's homepage as a pdf.. Read also his update regarding the n=2 condition)

Pachella, R.G. (1974). The interpretation of reaction time in information processing research. In B. Kantowitz (Ed.), *Human information processing: Tutorials in performance and cognition*. Hillsdale, N.J.: Erlbaum. (If you type the title in quotation marks as your search term, the first hit that pops up should be from oai.dtic.mil. Click on that; then on the pdf URL)

Readings 2 (Week Two) - Attention Preliminaries

For Thursday:

Lachter, J., Forster, K.I., & Ruthruff, E. (2004). Forty-five years after Broadbent (1958): Still no identification without attention. *Psychological Review*, *111*, 880-913. (Available as a pdf on the web)

Treisman, A. (2006). How the deployment of attention determines what we see. *Visual Cognition*, *2006*, 411-443. (Available as a pdf on the web, but I had more success with Google search than yahoo on this one)

And For Tuesday:

Simons, D. J., & Chabris, C.F. (1999). Gorillas in our midst: Sustained inattention blindness for dynamic events. *Perception*, *28*, 1059-1074. (Available as a pdf on the web)

Intraub, H., & Dickinson, C.A. (2008). False memory 1/20th of a second later: What the early onset of boundary extension reveals about perception. *Psychological Science*, *19*, 1007-1014. (You can get a pdf pre-publication version of this from Intraub's web site.)

In addition to reading the 2 interesting articles above, I want you to also locate an article written after the Lachter et al. article that contradicts their claim. Be prepared to briefly tell the class what happened and why it contradicts. (Available as a pdf on the web)

Readings 3 - Attention & Automaticity

For Thursday:

Shiffrin, R.M., & Schneider, W. (1977). Controlled and automatic human information processing: II. Perceptual learning, automatic attending, and a general theory. *Psychological Review*, *84*, 127-190. (Sometimes hard to find, but one site that hosts the article is http://psych.indiana.edu/tradition/Shiffrin_and_Schneider_1977.pdf)

(for an updated and more biologically specified version of the model, you might want to check out https://www.ewi-ssl.pitt.edu/psychology/admin/faculty-publications/schneider_2003.pdf, an article by Schneider & Chein)

Logan, G.D. (1990). Repetition priming and automaticity: Common underlying mechanisms? *Cognitive Psychology*, *22*, 1-35. (Available from Logan's home page: <http://www.psy.vanderbilt.edu/faculty/logan/1990LoganCP.pdf>)

For Tuesday:

Hasher, L., & Zacks, R.T. (1984). Automatic processing of fundamental information: The case of frequency occurrence. *American Psychologist*, 39, 1372-1388. (Available from http://www.psych.utoronto.ca/users/hasherlab/abstracts/zacks_amerpsych_84.htm)

Cosmides, L., & Tooby, J. (1996). Are humans good intuitive statisticians after all? Rethinking some conclusions from the literature on judgment under uncertainty. *Cognition*, 58, 1-73. (Available from <http://www.cep.ucsb.edu/papers/intuitivestat96.pdf>) (A practical application...)

(And for those of you interested in an update on a very different approach to automaticity, see Moors's chapter in *The Oxford Handbook of Cognitive Psychology*)

Readings 4 - Working Memory I

For Thursday:

Read Chapters 4 & 5 from the text

Engle, R.W., & Kane, M.J. (2004). Executive attention, working memory capacity, and a two-factor theory of cognitive control. In B.H. Ross (Ed.), *The psychology of learning and motivation* (Vol. 44), 145-199. NY: Elsevier. (http://www.psychology.gatech.edu/people/faculty/engle_randy.php)

Rose, N.S., Myerson, J., Roediger III, H.L., & Hale, S. (2010). Similarities and differences between working memory and long-term memory: Evidence from the levels-of-processing span task. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 36, 471-483. (<http://psych.wustl.edu/memory/publications/#2010>)

Ilkowska, M., & Engle, R.W. (2010). Working memory capacity and self-regulation. In R.H. Hoyle (Ed.), *Handbook of personality and self-regulation* (pp.265-290). Wiley-Blackwell. (Also on Engle's web site, and relevant to those of you interested in potential clinical applications of his theory of working memory)

(Note: The following readings are subject to change and may be updated as we go along)

Readings 5 - Episodic Memory

Read Chapter 7 from the text

Articles to be prepared (all from *Memory*, 23).

Mercer, T. (2015). Wakeful rest alleviates interference-based forgetting. (pp. 127-137).
(prepared by William)

Fazio, L.K., Dolan, P.O., & Marsh, E.J. (2015). Learning misinformation from fictional sources: Understanding the contributions of transportation and item-specific processing. (pp. 167-177). (prepared by Ashley)

Mortensen, L., Berntsen, D., & Bohn, O. (2015). Retrieval of bilingual autobiographical memories: Effects of cue language and cue imageability. (pp. 138-156). (prepared by Mateja).

(As the last article is available on the web, I'd like everyone to be familiar with it, even though Mateja is presenting it.)

Readings 6 - Semantic Memory

Read Chapter 9 from the text

Articles to be prepared

Hayes, B.K., & Rehder, B. (2012). Causal categorization in children and adults. *Cognitive Science*, 36, 1102–1128. (available from Bob Rehder's homepage)

Kim, N.S., & Ahn, W. (2002). Clinical psychologists' theory-based representations of mental disorders predict their diagnostic reasoning and memory. *Journal of Experimental Psychology: General*, 131, 451-476. (here's a link:
<http://cognitn.psych.indiana.edu/rgoldsto/courses/concepts/kim&ahn.pdf>)

Smith, J.D. (2014). Prototypes, exemplars, and the natural history of categorization. *Psychonomic Bulletin & Review*, 21, 312-331. (can be accessed as a pdf through the library's search site)

Rubin, D.C. (2014). Schema-driven construction of future autobiographical traumatic events: The future is much more troubling than the past. *Journal of Experimental Psychology: General*, 143, 612-630. (a slightly different version of this from the published journal article may be found at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3778053/>)

Although we do have presenters for these, I would like everyone to read the Kim & Ahn article, and the Hayes & Rehder article. I would very much like you to read the Rubin article for the second day of this unit.)

Readings 7 - False Memory

Read Chapter 12 from the text

Also:

Roediger, H.L. (1996). Memory illusions. *Journal of Memory and Language*, 35, 76-100. (can be found at <http://psych.wustl.edu/memory/publications/#1996>)

Articles to be prepared

Vincente, K.J., & Brewer, W.F. (1993). Reconstructive remembering of the scientific literature. *Cognition*, 46, 101-128. (Type in the title as your search term to locate a copy)

Hunt, R. H., & Smith, R.E. (2014). How distinctive processing enhances hits and reduces false alarms. *Journal of Memory and Language*, 75, 45-57. (Full text available)

Jack, F., Zydervelt, S., & Zajac, R. (2014). Are co-witnesses special? Comparing the influence of co-witness and interviewer misinformation on eyewitness reports. *Memory*, 22, 3, 243-255.

Joormann, J., Teachman, B.A., & Gotlib, I. (2009). Sadder and less accurate? False memory for negative material in depression. *Journal of Abnormal Psychology*. 118, 412-417. (available at http://web.stanford.edu/group/mood/docs120610/joormann_teachman_gotlib_2009.pdf)