This course will focus on the fundamental principles and issues involved in the study of human memory, primarily from a cognitive perspective but also drawing on findings from cognitive and clinical neuroscience. We will examine different kinds of memory, the basis for their differentiation, how they interact both at the cognitive/behavioral level and at the level of brain systems, and how they are affected by normal aging and brain damage. The structure of the course is based on a book that I am currently writing on the Fundamentals of Memory, which is targeted at an audience much like you, i.e., advanced undergrads or beginning graduate students, who already have some background in the area. The book is meant to cover the fundamentals and to be supplemented with current readings that highlight new discoveries and empirical findings, additional theoretical perspectives, and ongoing debates and topics for discussion that will prove interesting and thought-provoking. Some of the readings (in the first few classes) are from the book. I welcome feedback throughout the course on ideas for the book.

The class will be structured as a lecture/seminar. During the first half of each class, I will present the fundamentals of the topic for the week. This section will be based on (but not limited to) the material in the **basic readings** assigned for that day. Questions and discussion are required and encouraged (see requirements below). The second half of each class will be devoted to presentation and discussion of recent **individual papers** in the topic area, which will be presented by class members (see presentation requirement below). For those of you who find that you do not have sufficient background in the memory area and want a more introductory overview, you may consult the Baddeley et al., 2009 text listed below.

**READINGS**


**Basic and Selected Readings:** All readings are required and will be posted on D2L at [http://d2l.arizona.edu](http://d2l.arizona.edu).

**Course requirements**

1a. Each week, in addition to the basic readings listed in the syllabus, we will read one or two additional recent journal articles devoted to the memory issue being addressed that week. Individual students will be assigned to present one of the selected readings to the class. Each student will make one presentation. **Presentations** are intended to be about **15-20 minutes** (no longer) and should include answers to the following questions:
   a) What is the paper about?
   b) What was the hypothesis (or hypotheses)? What question(s) were being asked?
   c) What did the researchers do? What were the main features of the methodology?
   d) What did they find? What were the main results of experiments?
   e) What did they conclude?

1b. Following each presentation, additional time (about **10-15 minutes**) will be available for
discussion. The discussion will be led by another student, i.e., the discussant, who will critique the paper (not the presenter) that was presented and lead a discussion. The discussant can a) note any controversial issues, b) suggest how the paper relates to other things we’ve been talking about in class, c) introduce questions that may be raised by the paper but not answered, and d) engage in discussion with other students in the class who may raise questions. We’ll try to stick to a maximum of 30 minutes to be devoted to the presentation and discussion of each paper. **Presentations and discussions will start on September 9.**

**Presenter = 20%;** **Discussant = 10%**

2. Students in the class, who are not acting as presenter or discussant for that week, should be prepared to ask questions or raise additional issues for discussion both with respect to the basic reading and the individual papers. Participation will be monitored. It is not enough just to show up to class. You need to contribute.

**Participation = 5%**

3. **Book Review.** 10 points will be earned for writing book reviews of the first 2 chapters of the Fundamentals Book. Imagine that you have been asked by the publisher to review the chapters of this book before it is published. Include both positives and negatives, e.g., what did you particularly like, what was missing that you would like to have seen, etc. It is particularly important that you identify ideas, explanations, definitions, or even individual words that were not clear or that interrupted the flow of your reading. Review of Chapter 1 is due on **September 2** and review of Chapter 2 is due on **September 16.**

**Book reviews = 2 @ 5% = 10%.**

4. **Comment Papers.** Each week, students will write a short comment on one or more of the readings. The comment may identify an unusual or particularly compelling finding, note a relation between two or more papers, suggest possible alternative theoretical explanations of the findings, raise a question or note a problem raised by the reading, present a critical evaluation of any aspect of the paper, relate the issues in the paper to real-world problems, etc. Comments should be directed at either the basic readings or the selected papers for that particular class and should be posted to D2L no later than 10 p.m. (preferably earlier) on the day before class. The comment should be about **1 page long.** You may write a total of **5 comment papers,** not more than one per class, and you cannot comment on the paper that you present or discuss. (There are a total of 9 opportunities to write comment papers. You need to take advantage of 5 of them.) Comments will be given a **grade of 0-3** depending on the thoughtfulness of the comment. **Comments will start on Sept. 23.**

**Comment papers = 3% each x 5 = 15%.**

5. **Take-Home Examination.** A take-home examination will be made available on D2L following class on November 4 and will be due on **Nov. 11.** This examination will be in the form of essay questions. Questions will require an integration of knowledge from across the course. You will answer 2 questions and there will be a choice.

**Take-home Exam = 40%**
Aug. 26  **Background: Cognitive Models and Methods**

*Basic Readings:*

*Selected Readings:*

**Sept. 2**  **Background: Neurobiological Models and Methods**

*Basic Readings:*

*Selected Readings:*

**Book Review of Chapter 1 Due**

**Sept. 9  **Working Memory**

*Basic Readings:*

*Selected Readings:*

**Sept. 16  **Executive Function**

*Basic Readings:*

*Selected Readings:*

**Book Review of Chapter 2 Due**

**Sept. 23  **Episodic and Semantic Memory**

*Basic Readings:*

*Selected Readings:*
and category cued recall. *Neuropsychologia, 46*, 2109-2121.

**Sept. 30 Consolidation**

**Basic Readings:**
consolidation and hippocampus: two views. *Debates in neuroscience.*

**Selected Readings:**
a) Ryan, L. et al. (2001). Hippocampal complex and retrieval of recent and very
remote autobiographical memories: Evidence from functional magnetic resonance
memories: A subtle reminder triggers integration of new information. *Learning &
Memory, 14*, 47-53.

**Oct. 7 Encoding and Retrieval Processes**

**Basic Readings:**
a) Nyberg, L., Cabeza, R., & Tulving, E. (1996). PET studies of encoding and
modularity and episodic memory. *Journal of Clinical and Experimental
Neuropsychology, 17*, 276-290.

**Selected Readings:**
memory in memory-impaired individuals with neurological damage. *Neuropsychology.*

**Oct. 14 Source Memory/Recollection and Familiarity**

**Basic Readings:**
experiences. In E. Tulving & F. I. M. Craik (Eds.), *The Oxford handbook of
dissociation. In E. Tulving & F. I. M. Craik (Eds.), *The Oxford handbook of
memory* (pp. 215-228). Oxford: Oxford University Press.
adults: An encoding or retrieval problem? *Journal of Experimental Psychology:

**Selected Readings:**
a) Davidson, P.S.R., & Glisky, E. L. (2002). Neuropsychological correlates of
recollection and familiarity in normal aging. *Cognitive, Affective, and Behavioral
Neuroscience, 2*, 174-186.

**Oct. 21 False Memory/Memory Distortion**

**Basic Readings:**


**Selected Readings:**


**Oct. 28 Implicit Memory and Organic Memory Disorders**

**Basic Readings:**


**Selected Readings:**


**Nov. 4 Autobiographical Memory**

**Basic Readings:**


**Selected Readings:**


**Take-Home Exam Assigned**

**Nov. 11 Veteran’s Day Holiday – No class – Take-Home Exam Due**
Nov. 18  Emotion and Memory
Basic Readings:
Nature Reviews Neuroscience, 7, 54-64.
Selected Readings:

Nov. 25  Thanksgiving Holiday - No class

Dec. 2  Psychogenic Amnesia and Traumatic Memories
Basic Readings:
Selected Readings: