



## Psychology 398 Research in Memory Winter 2005



**Class Time:** Tuesdays & Thursdays 2:30-4:20pm  
**Location:** Hagey Hall 334

---

**Instructor:** Dr. Myra Fernandes  
**Office Hours:** Mondays 10-11am

[mafernan@watarts.uwaterloo.ca](mailto:mafernan@watarts.uwaterloo.ca)  
**Office:** PAS 4054

**Teaching Assistant:** Craig Blatz  
**Office Hours:** Thursdays 11am-noon

[cwblatz@watarts.uwaterloo.ca](mailto:cwblatz@watarts.uwaterloo.ca)  
**Office:** PAS 3045

### **Required Course Texts**

- 1) Schacter, D.L. (1996). *Searching for memory*. New York, USA: Basic Books.
- 2) Baddeley, A. (2002). *Human Memory: Theory and Practice, Revised Edition*. East Sussex, UK: Psychology Press Ltd.

### **Course Description**

Several majors themes in the area of memory research are explored in this course. Historically influential ideas, current theoretical debates, and the application of cognitive, social, neuroimaging, and neuropsychological, approaches to the study of memory are reviewed and discussed.

Questions to be addressed include: How is information encoded and retrieved? What types of memory processes exist? How can we measure these? Why does forgetting occur? What biological changes accompany memory loss? Can memory impairments be rehabilitated?

### **Course Structure and Requirements**

By the end of the course, students should have detailed knowledge of a wide range of memory phenomena and a solid foundation from which to pursue more advanced study. Attendance at lectures is strongly encouraged. The lab component will introduce students to different ways of studying memory, and will help students to gain an appreciation of experimental design. Group presentations are designed to promote discussion of relevant concepts.

### **Overview of Evaluation**

Answers to 5 sets of "Presentation Questions" 5 X 4% each =	20%
Group Presentation	25%
Participation in Discussion Sessions	5%
Lab Component	20%
End of Term Test	30%

## Details on each Evaluation

### Answers to "Presentation Questions"

Students must hand in their responses to 4 short answer questions provided by the group that is presenting in the upcoming week. There will be 6 presentations in total (including your own). The list of questions will be handed out, and posted on the course website, 1 week ahead of time. Your responses should be about 3-4 pages in length (<sup>3/4</sup> page - 1 page response per question), and are **due at the BEGINNING of class on the due date**.

All papers must be typed, in 12 point, with 1.9cm - 2.5cm margins, and double-spaced.

These written assignments are intended to help guide students through the upcoming week's readings/presentation, and to help students to gain a better understanding of how research in memory is conducted. You must hand in your answers to all sets of "Presentation Questions", except the one which corresponds to your Group's presentation.

Answers to "Presentation Questions" are worth 4% each X 5 = 20%

### Group Presentations

You will be placed in groups of 4 students. 2 students will work on Task A and 2 will work on Task B. You can work together to share ideas, but work is completed, and graded, independently.

**Task A** students- overall goal is to read the relevant chapter and prepare a 50 minute Power Point presentation.

Student A1 will present for 25 minutes, and Student A2 for another 25 minutes. Each student will review background and methods used in at least 2 studies from the chapter, and will highlight the conclusions and take-home message of the studies. Also, please note real world examples of the phenomenon (either mentioned in Schacter, or ones that you come up with yourself). For further details on a particular study, see the Notes section at the end of Schacter's book, and the Bibliography for full reference. This presentation will be graded, and is worth 25% of your grade.

A copy of your Power Point presentation must be emailed to the TA and Instructor on the day following your presentation.

**Task B** students- overall goal is to read the relevant chapter, prepare 4 short answer questions for your classmates, then lead an in-class "Discussion Session".

Student B1 will prepare 2 Questions/Answers, and Student B2 will prepare 2 Questions/Answers. These questions, and the answers to each, are to be handed in to your TA in the week prior to your group's presentation, and the "Questions only", are to be handed out to your classmates in the week prior to your presentation. The "Questions only" will be posted on the UW ACE website, and must be emailed to your TA prior to handing out questions to your classmates. The rest of the class must write their responses to your "*Presentation Questions*" and hand these in at the beginning of your group's presentation date.

In class you will present your questions and lead a Discussion Session, for 50 minutes (25 minutes for each student), on your answer and 'alternate answers' provided by your classmates during the Session. You can bring in extra materials (newspaper clippings) or prepare demos related to your prepared Questions; these will help engage your classmates in the Discussion Session. Your Questions/Answers, and the Discussion Session are worth 25% of your grade. BE CREATIVE!

*Hint 1:* make your “Presentation Questions” provocative, to invite discussion from your classmates, or come prepared to defend your particular Answers to your Questions, if many different Answers are possible.

*Hint 2:* the class will be more fun if you find a way of engaging your fellow classmates in the Discussion (e.g. frame your questions such that students have to pick one side of a debate, and defend it, or have students provide examples from every day life to support their answers)

### Participation in Discussion Sessions

During each of the Group Presentations (except your own), you will be expected to participate in the Discussion Session by providing some of your “Responses to Presentation Questions” to the class, and/or providing feedback to fellow classmates, and the Group Presenters. Participation is worth 5% of your grade.

### Lab Component

**Part A-** You will participate in an experiment conducted in Room 1237 on one of the dates specified in the syllabus.

**Part B-** You must sign up to participate in this 1 hour study by placing your student ID number in one of the time slots posted on the door of Room 4245 in the Research Area on the 4<sup>th</sup> floor of the PAS building.

**Part C-** Summary data from Part A and Part B will be provided to you. You must hand a Report consisting of 1) a graph of the data from Part A and a graph of Part B, 2) a description of the pattern of data observed in Part A and Part B, and 3) a summary of common and different effects observed in Part A and Part B. In addition, you will be required to answer a short list of questions relating to the data and design; these will be handed out with summary data in March. Parts A and B are worth 2% each, and Part C is worth 16% (total for Lab Component = 20%)

### End of Term Test

The test is worth 30% of your grade, and will consist of several short answer questions and longer essay questions based on material covered in lectures, and in the relevant chapters in Baddeley.

### *Note on Late assignments*

*It is the student's responsibility to hand in late papers directly to the course T.A., in person, or via email. Papers are subject to a late penalty of -5% per day, including weekends.*

### **About Your Instructor**

In my research I aim to understand the processes involved in higher cognitive functions such as memory, attention and language. I use a combination of behavioural tests and neuro-imaging to identify the neural correlates of these functions. In addition I study how the normal aging process affects cognition, particularly one's ability to carry out memory tasks concurrently with other tasks (dual-tasking). This work is used to test and refine current models of how memory encoding and retrieval operate.

**The following pages contain the Tentative Schedule for classes:**

<b>Topic</b>	<b>Readings and Assignments</b>	<b>Dates</b>
Introduction	Organize for “Group Presentations”  Samples of ‘Presentation Questions’	Tuesday Jan 4 <sup>th</sup>
Methods of studying the brain	Schacter Chapter 1 Baddeley Chapter 1	Thurs. Jan 6 <sup>th</sup>
Perceiving and Remembering	Baddeley Chapter 2	Tuesday Jan 11 <sup>th</sup>
Building memories	Schacter Chapter 2	Thurs. Jan 13 <sup>th</sup>
Kinds of memory	Baddeley Chapter 3	Tuesday Jan 18 <sup>th</sup>
Models of memory	Baddeley Chapter 4	Thurs. Jan 20 <sup>th</sup>
Working Memory	Baddeley Chapter 5  Group #1 Ques/Ans Submitted	Tuesday Jan 25 <sup>th</sup>
Autobiographical memory	Schacter Chapter 3 Baddeley Chapter 12	Thurs. Jan 27 <sup>th</sup>
Group # 1 presents Memory Distortions	Schacter Chapter 4  “Presentation Questions” for Group #1 due  Group #2 Ques/Ans. Submitted	Tuesday Feb 1 <sup>st</sup>
Control of Attention	Baddeley Chapter 6	Thurs. Feb. 3 <sup>rd</sup>



<b>Topics</b>	<b>Readings and Assignments</b>	<b>Dates</b>
Group #2 presents Amnesia and the brain	Schacter Chapter 5 "Presentation Questions" for Group #2 due	Tuesday Feb 8 <sup>th</sup>
Role of attention in memory Levels of Processing	Baddeley Chapter 7 Group #3 Ques/Ans. Submitted	Thurs Feb 10 <sup>th</sup>
Lab Part A – half class Guest Lecture "Group Memory" - half of class	Group #4 Ques/Ans. Submitted	Tuesday Feb 15 <sup>th</sup>
Procedural memory	Baddeley Chapter 9, 19 Lab Part B completed	Thurs. Feb 17 <sup>th</sup>
No Class	Reading Week	Tuesday Feb 22 <sup>nd</sup>
No Class	Reading Week	Thurs. Feb. 24 <sup>th</sup>
Group # 3 presents Implicit memory	Schacter Chapter 6 "Presentation Questions" for Group #3 due	Tuesday March 1 <sup>st</sup>
Group # 4 presents Emotional Memory	Schacter Chapter 7 "Presentation Questions" for Group #4 due Group #5 Ques/Ans. Submitted	Thurs. March 3 <sup>rd</sup>
Lab Part A – half class Guest Lecture "Group Memory" - half of class	Psych 398 Research in Memory	Tuesday March 8 <sup>th</sup>

<b>Topics</b>	<b>Readings and Assignments</b>	<b>Dates</b>
Organization and learning	Baddeley Chapter 8	Thursday March 10 <sup>th</sup>
Group # 5 presents Trauma & Memory	Schacter Chapter 9 "Presentation Questions" for Group #5 due  Group #6 Ques/Ans. submitted	Tuesday March 15 <sup>th</sup>
Forgetting  Design issues	Baddeley Chapter 10  Review of Lab results	Thurs. March 17 <sup>th</sup>
Group # 6 presents Memory & Aging	Schacter Chapter 10 "Presentation Questions" for Group #6 due	Tuesday March 22 <sup>nd</sup>
Retrieval	Baddeley Chapter 11	Thursday March 24 <sup>th</sup>
Lesion studies and neuroimaging of memory	Baddeley Chapter 16  Lab Part C due	Tuesday March 29 <sup>th</sup>
Alzheimer disease, dementia, and treatments  Review of material	Baddeley Chapter 17  Question/Answer period	Thurs. March 31 <sup>st</sup>
End of term test		Tuesday April 5 <sup>th</sup>