



Psychology 398 Research in Memory Spring 2009



Class Time: Tuesdays & Thursdays 10:30am-12:20pm

Location: PAS 3026 (lectures) PAS 1237 (labs)

Instructor: Dr. Myra Fernandes

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Office Hours: Tuesdays 12:30-1:30pm

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Teaching Assistant: Lana Ozen

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Office Hours: Thursdays 12:30-1:30pm

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Required Course Text

Baddeley, A. (2002). *Human Memory: Theory and Practice, Revised Edition*. East Sussex, UK: Psychology Press Ltd.

Course Description

Several major 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 exist? How can we measure these? Why does forgetting occur? What biological changes accompany memory loss? Can memory impairments be rehabilitated?

There is also a lab component to this course. The goal of the lab component is to introduce you to *E-Prime software*, which is often used to collect data for research studies. The goal for these labs is to give you a “hands-on” approach to understanding the methods currently in use for much of memory research.

Course Structure and Requirements

By the end of the course, you will have a detailed knowledge of a wide range of interesting memory phenomena and a solid foundation from which to pursue more advanced study. Group presentations are designed to promote discussion of relevant concepts. The poster session is designed to introduce you to how research results are communicated at scientific conferences and meetings. The introduction to E-Prime will familiarize you with how experiments are set up, the variables that can be manipulated, and hopefully get you to understand just how flexible experiments can be with the right programming tools. Attendance at lectures and in labs is strongly encouraged.

Overview of Evaluation

Mid-term Test	Tuesday June 30th	30%
Lab worksheets and activities	9 X 3% each =	27%
Group Presentation		20%
Participation in Panel Discussions		8%
Poster	Due Tuesday July 28th	15%

Details on each Evaluation

Mid-term Test

The test is worth **30% of your grade**, and will consist of multiple choice, short answer questions, and longer essay questions based on material covered in lectures, and in the relevant chapters in Baddeley. The test will be 1 hour and 30 minutes in length.

Lab Component

The goal of the lab component is to introduce you to E-Prime software, which is often used to collect data for research studies. All lab activities and worksheets are to be completed during the scheduled lab time, and are worth 3% each (9 labs X 3% = **27% of your grade**). A copy of the “Lab Course notes” is available at the UW Bookstore. **NOTE that all labs take place on the dates indicated in the syllabus (in bold), in PAS 1237.**

Group Presentations

You will be placed in groups of 2 students. You can work together to share ideas, **but work is completed, and graded, independently.** Presentations consist of two parts:

PART A

Read the relevant chapter/reading. Each student must prepare a 15 minute Power Point presentation. During the presentation, each student will review the methods and key points from 1 to 2 sections of the assigned chapter/reading. Each student is also required to select 2 studies from the reference section in the assigned chapter/reading (or from recently published articles). The conclusions and take-home message of those studies should be included in your presentation. Also, please note real world examples of the phenomenon. This presentation will be graded, and is worth **15% of your grade**.

A copy of your Power Point presentation must be emailed to the TA and Instructor **by 4pm on the day before your presentation**, so that it can be brought to class by the instructor and loaded on the computer prior to the beginning of class the next day.

PART B

Following your group’s presentations, you will be part of a Panel Discussion for 10 minutes. During this time your group must pose 2 Questions to your classmates (could be 1 from each presenter, or 2 “group” questions relating to the overall theme). Your classmates will attempt to answer the questions. Your job during the Panel Discussion is to guide students, bring up relevant experiments, and jump in with an opinion on the topic. You can bring in extra materials (newspaper clippings) or prepare demos related to your prepared Questions. These will help engage your classmates in the Panel Discussion. Your Questions/Answers, and ability to lead the Panel Discussion will form **5% of your grade**.

Hint 1: make your “Panel 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 Panel Discussion

During each of the Panel Discussions (except your own), you will be expected to participate 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 8% of your grade. You can earn 1% per Panel Discussion question, up to a maximum of **8% of your grade**.

Poster Assignment

You will prepare a scientific poster on a published research study of your choice, from a topic on memory other than the one on which you presented. A poster is a 1-page summary of the Background, Methods, Results, and Conclusions from a given study. This is the format used to communicate research findings at scientific conferences and meetings. A poster serves as an “Executive Summary” of a study, allowing others to quickly understand the research question and answers that were investigated. A sample poster, in Power Point format, can be found on UW-ACE. You should use this sample as a template for your own poster.

Please print a copy of your poster on a plain white sheet of paper (8 ½ X 11), for each student in the class to take home. On the last day of class, **Tuesday July 28th** we will have a **POSTER DAY**, during which each person in the class can tell us about their poster in 5 minutes. Be sure to acknowledge all sources of information, and avoid plagiarism (see note below). You will be marked on the written clarity of the content of your poster (**8%**), and your ability to communicate the results and conclusions of the study accurately, using text, graphs and/or tables (**7%**).

Who can I see if I have questions about the course material?

See your teaching assistant, LANA, if you have questions about material covered in the textbook or in the labs. See DR. FERNANDES for questions about material covered in the lectures.

Course Web page / What is UW-ACE?

UW-ACE is a web-based course management system that enables instructors to manage course materials and interact easily and efficiently with their students. Here, **I will post lecture notes online**, along with the course syllabus. Course announcements, and answers to Frequently Asked Questions will also be posted on UW-ACE. UW-ACE will also be used to post marks to the grade-book, and track student progress. You will need to log into UW-ACE to retrieve your course e-mail.

How do I log onto UW-ACE?

Type <http://www.uwace.uwaterloo.ca> and log on using your Quest/UWdir userid and password.

What should I do if I can't get logged into UW-ACE?

If you are having trouble logging in, please confirm that your QUEST/UWdir userid and password are correct. Please note that UW-ACE is case sensitive, so you must type your password with the appropriate upper and lower case letters. If you confirm that your userid and password are correct and still can not log in, please check with your instructor to ensure that you are on the class roster. If you are still encountering difficulties, please e-mail uwacehelp@ist.uwaterloo.ca stating your name, UWuserid, student ID number and the course to which you wish access.

Policy for missed test

*It is the student's responsibility to provide, in a timely manner, acceptable documentation to support a medical, compassionate, or religious claim for missing a test. Otherwise a grade of zero may be assigned for the missed test. If you feel that you have a medical or personal problem that is interfering with your work, you should contact your Instructor and the Academic Counseling Office as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. In general, retroactive requests for grade revisions on medical or compassionate grounds will not be considered. For example, in the case of illness, the student must provide an **official illness certificate on appropriate letterhead from their physician**, which states that, due to medical reasons, it was impossible for the student to write the test at the scheduled time. A note on a prescription pad is not an acceptable medical certificate.*

Once Dr. Fernandes has received appropriate documentation for missing a test, a make-up test, covering that material will be scheduled for a time that is mutually convenient for Dr. Fernandes, the TA, and the student.

Policy for late lab assignments, and late posters

*It is the student's responsibility to hand in late assignments or posters directly to the course T.A. or instructor **in person**, or via **email**. These will be subject to a **late penalty of -5% of the assigned grade, per day**, including weekends.*

Note for students with disabilities:

The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.

Note on avoidance of academic offences:

All students registered in the courses of the Faculty of Arts are expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for their actions. When the commission of an offence is established, disciplinary penalties will be imposed in accord with Policy #71 (Student Academic Discipline). For information on categories of offences and types of penalties, students are directed to consult the summary of Policy #71 which is supplied in the Undergraduate Calendar (section 1; on the Web at www.adm.uwaterloo.ca/infosec/Policies/policy71.htm). If you need help in learning what constitutes an academic offence; how to avoid offences such as plagiarism, cheating, and double submission; how to follow appropriate rules with respect to "group work" and collaboration; or if you need clarification of aspects of the discipline policy, ask your TA and/or your course instructor for guidance (see also Arts Faculty Web page http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html). Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>.

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 brain basis 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:

Topic	Readings and Assignments	Dates
Syllabus UW-ACE Introduction to Memory Research	Organize for “Group Presentations”	Tuesday May 5 th
Methods of studying the brain	Baddeley Chapter 1	Thursday May 7 th
Perceiving and Remembering	Baddeley Chapter 2	Tuesday May 12 th
Kinds of memory	Baddeley Chapter 3	Thursday May 14 th
Working Memory	Baddeley Chapter 4	Tuesday May 19 th
Lab 1 - Introduction to E-Prime	Lab 1 course notes	Thursday May 21st
Working Memory Part 2	Baddeley Chapter 5	Tuesday May 26 th
Lab 2 – Sample Experiment	Lab 2 course notes	Thursday May 28th
Control and Attention in Memory	Baddeley Chapter 6 / 7	Tuesday June 2 nd
Lab 3 – creating a free recall experiment	Lab 3 course notes	Thursday June 4th
Organization & Learning	Baddeley Chapter 8	Tuesday June 9 th
Lab 4 – creating a recognition experiment	Lab 4 course notes	Thursday June 11th

Topics	Readings and Assignments	Dates
Retrieval	Baddeley Chapter 11	Tuesday June 16 th
Lab 5 – making modifications to an experiment	Lab 5 course notes	Thursday June 18th
Memory, Aging, Dementia & Treatments	Baddeley Chapter 17	Tuesday June 23 rd
Lab 6 – fixing errors in a recall experiment	Lab 6 course notes	Thursday June 25th
Mid-term test	Mid-term test	Tuesday June 30th
Lab 7 – fixing errors in a recognition experiment	Lab 7 course notes	Thursday July 2nd
Meet with group members	Preparation for Group presentations	Tuesday July 7 th
Lab 8 – run classmates through your experiment	Lab 8 course notes	Thursday July 9th
Lab 9 – E-data-aid	Lab 9 course notes	Tuesday July 14th

Topics	Readings and Assignments	Dates
<p>Group 1 : forming habits or forgetting</p> <p>Group 2 : autobiographical memory or semantic memory</p>	<p>Baddeley Chapter 9 or 10</p> <p>Baddeley Chapter 12 or 13</p>	<p>Thursday July 16th</p>
<p>Group 3 : connectionism (1 person)</p> <p>Group 4 : emotional memory</p> <p>Group 5 : amnesia</p>	<p>Baddeley Chapter 14</p> <p>Baddeley Chapter 15 or Davidson, P., Cook, S.P., & Glisky, E. (2006). Flashbulb memories for Sept. 11th can be preserved in older adults. <i>Aging, Neuropsychology, & Cogn.</i>, 13, 196-206</p> <p>Baddeley Chapter 16 or Rosenbaum, et al., (2005). The case of K.C.: Contributions of a memory-impaired person to memory theory. <i>Neuropsychologia</i>, 43, 989-1021</p>	<p>Tuesday July 21st</p>
<p>Group 6 : consciousness (1 person)</p> <p>Group 7 : implicit memory</p> <p>Group 8 : recollections or cognitive neuroscience of memory</p>	<p>Baddeley Chapter 18</p> <p>Baddeley Chapter 19</p> <p>Baddeley Chapter 20 or Cabeza, R., & St. Jacques, P. L. (2007). Functional neuroimaging of autobiographical memory. <i>Trends in Cognitive Sciences</i>, 11, 219-227</p>	<p>Thursday July 23rd</p>
<p>Poster Day</p>	<p>Present your poster to the class!</p>	<p>Tuesday July 28th</p>

NOTE: If there is a discrepancy between the hard copy syllabus and the syllabus posted on UW-ACE, the syllabus on UW-ACE will be deemed the official version