# Psychology 398 Research in Memory
# Spring 2010

**Class Time:** Tuesdays & Thursdays 10:30am-12:20pm
**Location:** PAS 3026 (lectures) PAS 1237 (labs)

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**Instructor:** Dr. Myra Fernandes — mafernan@uwaterloo.ca
**Office Hours:** Thursdays 12:30-1:30pm — **Office:** PAS 4054

**Teaching Assistant:** Harm Kelly — hkelly@uwaterloo.ca
**Office Hours:** Wednesdays 1:30-2:30pm — **Office:** PAS 4227


## *Required Course Text*

Baddeley, A., Eysenck, M.W., & Anderson, M.C. (2009). *Memory.* New York, NY, Psychology Press

## *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 memory phenomena and a solid foundation from which to pursue more advanced study. 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. 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.

## *Overview of Evaluation*

| | | |
|---|---|---|
| Mid-term Test | **Tuesday June 22nd** | 35% |
| Lab worksheets and activities | 9 X 3% each = | 27% |
| Group Presentation | | 20% |
| Participation in Panel Discussions | | 8% |
| Poster | **Tuesday July 27th** | 10% |

## Details on each Evaluation

### *Mid-term Test*

The test is worth **35% 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 your course textbook. The test will be 1 hour and 30 minutes in length.

### *Group Presentations*

You will be placed in groups of 3 students. You can work together to share ideas, **but work is completed, and graded, independently.** Presentations consist of two parts:

**Task A**

Read the relevant chapter/reading. Each student must prepare a 10 minute Power Point presentation. Each student will review the key points, and methods, presented in their section of the assigned chapter/reading, and then will select 1 related study from recently published journal articles, and will highlight the conclusions and take-home message of this additional study. 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.

**Task B**

Following your group's presentations, you will lead a Panel Discussion for 15 minutes. During this time your group must pose 3 Questions to your classmates (could be 1 from each presenter, or 3 "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 1) participate by providing oral "Responses to Presentation Questions" to the class, and 2) providing written feedback to the Group Presenters. Participation is worth **8% of your grade**. You can earn 2% per Panel Discussion session (up to max. of 8%).

## *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.**

## *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 27th** we will have a **POSTER DAY**, during which each person in the class can tell us about their poster **in 4 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 text, your graphs and/or tables **(6%**), and your ability to communicate the results and conclusions of the study accurately **(4%).**

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

See your teaching assistant, MR. KELLY, 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 on to 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/ assignment/ poster:

**Students who are requesting accommodation for course requirements *(assignments, midterm tests, final exams, etc.)* due to illness** should do the following:

- seek medical treatment as soon as possible and obtain a completed UW Verification of Illness Form: http://www.healthservices.uwaterloo.ca/Health_Services/verification.html
- submit that form to the instructor within 48 hours.
- (preferably) inform the instructor by the due date for the course requirement that you will be unable to meet the deadline and that documentation will be forthcoming.

In the case of a missed final exam, the instructor and student will negotiate an extension for the final exam which will typically be written as soon as possible, but no later than the next offering of the course.

In the case of a missed assignment deadline or midterm test, the instructor will either: waive the course component and re-weight remaining term work as he/she deems fit according to circumstances and the goals of the course, or provide an alternative. **In the case of bereavement,** the instructor will provide similar accommodations to those for illness. Appropriate documentation to support the request will be required.

Students who are experiencing extenuating circumstances should also inform their academic advisors regarding their personal difficulties.

## 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.*

**The Official Version of the Course Outline** If there is a discrepancy between the hard copy outline *(i.e., if students were provided with a hard copy at the first class)* and the outline posted on ACE, the outline on ACE will be deemed the official version. Outlines on ACE may change as instructors develop a course, but they become final as of the first class meeting for the term.

**Accommodations 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.

**Concerns About the Course or Instructor (Informal Stage)** We in the Psychology Department take great pride in the high quality of our program and our instructors. Though infrequent, we know that students occasionally find themselves in situations of conflict with their instructors over course policies or grade assessments. If such a conflict arises, the Associate Chair for Undergraduate Affairs (Dr. Colin Ellard) is available for consultation and to mediate a resolution between the student and instructor. Dr. Ellard's contact information is as follows:

Email: cellard@uwaterloo.ca Ph 519 -888- 4567 ext 36852

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. See Policy 70 and 71 below for further details.

**Academic Integrity, Academic Offenses, Grievance, and Appeals**

To protect course integrity, as well as to provide appropriate guidance to students, course outlines in the

Faculty of Arts must include the following note on avoidance of academic offenses:

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check http://www.uwaterloo.ca/academicintegrity/ for more information.]

Discipline: A student is expected to know what constitutes academic integrity [check http://www.uwaterloo.ca/academicintegrity/] , to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about 'rules' for group work/collaboration should seek guidance from the course instructor, academic advisor, or the Undergraduate Associate Dean. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline, http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm For typical penalities check Guidelines for the Assessment of Penalties http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Appeals: A decision made or penalty imposed under Policy 70 (Student Petitions and Grievances) (other than a petition) or Policy 71 (Student Discipline) may be appealed if there is a ground. A student who believes that he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm (Include also the following paragraph if you will be using Turnitin*): PLAGIARISM DE
SCREEN ASSIGNMENTS IN THIS COURSE. THIS IS BEING DONE TO VERIFY THAT USE OF ALL MATERIAL AND SOURCES IN ASSIGNMENTS IS DOCUMENTED. IN THE FIRST LECTURE OF THE TERM, DETAILS WILL BE PROVIDED ABOUT THE ARRANGEMENTS FOR THE USE OF TURNITIN IN THIS COURSE.

**Academic Integrity website (Arts):** http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html

**Academic Integrity Office (UW):** http://uwaterloo.ca/academicintegrity/

## *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<br>UW-ACE<br><br>Introduction to Memory Research | Organize for<br>“Group Presentations” | Tuesday May 4th |
| Methods of studying the brain | Baddeley et al., Chapter 1 | Thursday May 6th |
| Perceiving and Remembering | Baddeley et al., Chapter 2 | Tuesday May 11th |
| **Lab 1 - Introduction to E-Prime** | **Lab 1 course notes** | **Thursday May 13th** |
| Kinds of memory | Baddeley et al., Chapter 2 | Tuesday May 18th |
| **Lab 2 – Sample Experiment** | **Lab 2 course notes** | **Thursday May 20th** |
| Working Memory | Baddeley et al., Chapter 3 | Tuesday May 25th |
| **Lab 3 – creating a free recall experiment** | **Lab 3 course notes** | **Thursday May 27th** |
| Neuroimaging of working memory / Learning | Baddeley et al., Chapter 4 | Tuesday June 1st |
| **Lab 4 – creating a recognition experiment** | **Lab 4 course notes** | **Thursday June 3rd** |
| Learning / Organization | Baddeley et al., Chapter 5 | Tuesday June 8th |

| Topics | Readings and Assignments | Dates |
|---|---|---|
| **Lab 5 – making modifications to an experiment** | **Lab 5 course notes** | **Thursday June 10th** |
| Retrieval / Context effects | Baddeley et al., Chapter 8 | Tuesday June 15th |
| Memory, Aging, & Dementia | Baddeley et al., Chapter 10 | Thursday June 17th |
| **Mid-Term Test** | **Mid-Term Test** | **Tuesday June 22nd** |
| **Lab 6 – fixing errors in a recall experiment** | **Lab 6 course notes** | **Thursday June 24th** |
| **Lab 7 – fixing errors in a recognition experiment** | **Lab 7 course notes** | **Tuesday June 29th** |
| Canada Day | NO CLASS | Thursday July 1st |
| **Lab 8 – run classmates through your experiment** | **Lab 8 course notes** | **Tuesday July 6th** |
| **Lab 9 – E-data-aid** | **Lab 9 course notes** | **Thursday July 8th** |

| Topics | Readings and Assignments | Dates |
|---|---|---|
| Group 1: Semantic memory<br><br>Group 2: Autobiographical memory | Baddeley et al., Chapter 6<br><br>Baddeley et al., Chapter 7 | Tuesday July 13th |
| Group 3: Forgetting (4 people)<br><br>Group 4: Amnesia | Baddeley et al., Chapter 9 and 10<br><br>Baddeley et al., Chapter 11 | Thursday July 15th |
| Group 5: Memory in Childhood<br><br>Group 6: Eyewitness testimony | Baddeley et al., Chapter 12<br><br>Baddeley et al., Chapter 14 | Tuesday July 20th |
| Group 7: Prospective Memory<br><br>Group 8: Improving your Memory | Baddeley et al., Chapter 15<br><br>Baddeley et al., Chapter 16 | Thursday July 22nd |
| **Poster Day** | Present your poster to the class! | **Tuesday July 27th** |