PSYCH 398 Research in Memory

UNIVERSITY OF WATERLOO

Department of Psychology

WINTER 2011

Instructor:	Jason Ozubko	***Teaching Assistant:***	Stephanie Solcz
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Office Hours:	Mon & Wed 3:30 – 4:30pm	***Office Hours:***	Thurs 1:30 – 2:30pm
Office:	PAS 4259	***Office***	PAS 4042

Meeting Place: PAS 2086 (Jan 5th to Feb 14th, March 28th to March 30th)
PAS 1237 (Feb 16th to March 23rd)

Meeting Time: Mon & Wed 4:30pm to 6:20pm

Website: UW-ACE

Course Description:

This course is designed to introduce students to experimental methodology in the study of human memory. The first half of the course will be structured as a lecture series to introduce you to many of the current techniques for and issues regarding the study of memory. The second half of the course will see you in the computer lab where you will gain first-hand experience researching, designing, and programming an experiment, as well as collecting, analyzing, interpreting, and presenting real data.

Course Readings:

The textbook is *The Oxford Handbook of Memory* by Endel Tulving and Fergus I. M. Craik (available in the Bookstore for ≈$50). We are going to move through the book quickly in the first part of the term, so you really do not want to fall behind.

In addition to the textbook you will be required to read several journal articles regarding memory research. As a class we will read and discuss Greene (2004; full reference below). This article will form the foundation for you first lab. You should try to find this article yourself on PsycINFO.

In the second half of class you will be assigned small groups to conduct your own research project. You and your group will be responsible for finding up to 3 new research articles on which to base a research project. All articles must be empirical research reports (**no review articles**).

Lab #1 Reading:

Greene, R. L. (2004). Recognition memory for pseudowords. *Journal of Memory and Language, 50*, 259-267.

PsycINFO: http://testtube.uwaterloo.ca/Go/index.cfm?resource=14907

Course Evaluation:

Part I. (from Jan 5th to Feb 14th)

1. **Online Participation (10%):** Discussion boards are setup on UW-ACE for each class where a textbook chapter is covered. After a chapter is discussed in class, you have until 6pm on Sunday to post at least 2 comments to the discussion board regarding material in that chapter. Comments can be questions about material that you did not understand, answers to other students questions, or "what-if" or "did-you-wonder" questions if you had an interesting idea while reading the chapter. DO NOT repeat questions that have already been asked (or answered). Repetitions of past comments, comments that appear to be posted with little effort or forethought, and comments that are posted late will not count. Note that the TA will be monitoring the forums for both participation and clarification (i.e., if a student accidentally offers an incorrect answer to a question, they will not be penalized if their effort seems genuine, but the TA will correct the answer).

2. **Lab Report #1 (10%):** During the first half of the class, we will be working together to analyze and interpret a set of novel data. Although we will do much of the work as a class, you will ultimately be responsible for writing *your own* lab report on our work. Reports should not exceed 4000 words. Lab Report #1 is due, in hard copy, on *February 2nd, 2011*.

3. **Midterm (30%):** During the first 5 weeks of the course we will work through 9 chapters of the textbook. Each class, I will give a 1-hour lecture to supplement the textbook material for that class. Note that I will NOT be summarizing textbook chapters. (There will be several Q&A and reviews sessions where I will answer any questions regarding textbook materials. Furthermore both myself and the TA will be available if you have difficulty with the textbook. As well, you will already have the online discussion boards to discuss textbook materials.) Lectures will assume that you have read the recommended textbook chapters and will often provide supplementary information or go into further detail about methods or issues discussed in the text. You are responsible for all textbook and lecture material for the midterm. The midterm will be a 90 minute test comprised of about 60 multiple choice questions. It will occur during class time on *February 14th, 2011*.

Part II. (from Feb 16th to April 4th)

4. **Attendance and Participation (10%):** The second half of the course will be focused on conducting real memory experiments on your classmates. You will be working in small groups to accomplish this. As a result, I will be monitoring attendance and participation in the class and with your group. Your attendance is necessary because your classmates will need you around to participate in their studies, and your group will need you around to assist with the work. Helping research your group's idea, helping to program or organize the study, helping to run participants and collect or analyze data, helping to interpret the data or work on the group presentation, working on writing or peer-editing during class time, and asking questions during the conference presentation are all ways to ensure you will get your full marks here. Failing to attend class regularly and/or surfing *Facebook* or other non-class related websites during your

computer lab time are ways to ensure you will be penalized. Note that you are permitted to miss a class if you contact me *ahead of time* with a reasonable explanation.

5. **Conference Talk (10%):** You will be required to work with your group in the second half of class on your own research project. Your group will need to present your research and your findings to the class in the format of an official conference talk. You will be graded on how you present your section of the talk as well as the overall consistency of the talk itself. Tentatively, presentations should be approximately 20 mins and expect 5 to 10 minutes of questions from the class afterward.

6. **Lab Report #2 (30%):** You will be required to write a lab report based on your group project from the second half of class. Reports should all be written *independently*. Consulting with group members about possible ideas is fine, but all the writing should be done *by yourself*. The second lab report will require up to 3 research articles as references. You and your group will be responsible for having these articles well before you begin your project. Your report should not exceed 4000 words. Lab Report #2 is due, in hard copy, on *April 11th, 2011*.

Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Petitions and Grievances, http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm.

Lab Reports:

- Due **at the beginning of class** on the date specified. Reports submitted late will receive a **5%** deduction off the total grade, every day, until the report is submitted.
- You will be ***discussing*** the labs often with your classmates however all reports must be written **INDEPENDENTLY**. Any form of collaborative writing beyond simple peer editing will be considered cheating and is considered a serious academic offense.
- Please include the **SPSS output** from the statistical analysis for each lab as a secondary attachment (SPSS output should **NEVER** be embedded in a report), as well as an **electronic copy** of your report for my records (through UW ACE).

Lab reports must follow APA format as detailed in the American Psychology Association Publication Manual, 5th Edition. Reports must be typed, double-spaced, and have appropriate margins. Excellent sources to look at the general format of lab reports are articles in recent issues of APA journals such as the Journal of Experimental Psychology, Memory & Cognition, or Psychonomic Bulletin & Review. Specific formatting is detailed below:

Title and Abstract

The title should summarize and describe the research in one sentence. This will be the first thing that the reader acknowledges and will tell them whether they should read the article or not. Try to be as informative as possible. The running head, the author, and the author's affiliation are also key components of the title page.

The abstract is the second component of the paper that the reader will acknowledge. It should describe the research in more detail. It is a concise summary of the introduction, methods, results, and conclusions of the research and is usually presented in 250-words or less.

Introduction

This section introduces the research and the questions being addressed. It should provide a clear rationale for why the present experiment was designed and conducted. The format typically flows from general to specific, and begins with a thorough review of the relevant past literature pertaining to the topic under investigation, and ends with the particular hypotheses being tested in the current study.

Method

The method section states all the experimental details of the study necessary for replication and is comprised of the subsections: *participants, materials, procedure,* and *design.*

The *participants* section informs the reader about the sample that was tested – mostly demographic information and any relevant information pertaining to the study (e.g., "normal hearing" if an auditory experiment). Ethical information can also be mentioned.

The *materials* section describes all the stimuli and equipment used. This information is very detailed and will help other researchers to replicate the experiment.

The *procedure* describes to the reader, step-by-step, how the experimental sessions were performed – from the time the participant entered the room to the moment the participant completed the session. This section also includes details of each trial of the experiment.

The *design* section identifies the independent and dependent variables and states how the data will be analyzed (e.g., 2-way within-subjects ANOVA, paired-sample t-tests, etc.).

Results

The results section reports the outcomes of the statistical analysis. This includes main effects, interactions, post hoc or planned comparisons, descriptive statistics (e.g., means, medians, standard errors, etc.). Commonly, authors will present data in the form of figures or table (but NOT both) that appear separately at the end of the report.

Discussion

This section contains a short summary of the present findings and how they relate to previous research. The results should be considered in the context of the study's predictions and theoretical surroundings that were discussed in the Introduction. Limitations of the experiment are also discussed, as well as the implications of the research. At the end of the discussion, sometimes authors will mention how the research applies to the 'real world' and any future directions the author can provide.

References

This is a complete list of all references cited in the paper, listed in alphabetical order, and includes journal articles, book chapters, books, or any other material used.

Reference only those articles that were used and referred to in the paper. It is essential that you only include articles that you have read and understand. Incorrectly citing a reference can be a very embarrassing mistake as you lose credibility for all other referenced materials.

Style & APA Format

The style of your papers should conform to the American Psychological Association (5th Edition). You can buy this from the bookstore, get it from the library, or borrow it, during class time, from me. There are also helpful links on the web:

http://owl.english.purdue.edu/owl/resource/560/01/
http://apastyle.apa.org/
http://www.psywww.com/resource/APA%20Research%20Style%20Crib%20Sheet.htm
http://www.vanguard.edu/faculty/ddegelman/index.aspx?doc_id=796

Computer Software:

You will be programming and conducting experiments in E-Prime, a software package used by real researchers. You will be analyzing your data using SPSS, also a tool used by real researchers. I will hold tutorials on both programs as we need them however, here are some useful links.

E-Prime Resources:

http://step.psy.cmu.edu/scripts/categories.html#memory
http://www.humlab.lu.se/www-transfer/education/manuals/courses/eprime_eng.pdf

SPSS Resources:

http://www.psych.utoronto.ca/courses/c1/spss/toc.htm

Statement Regarding Academic Offense:

The following statement must be included in all course outlines at the University of Waterloo. It is *important*; please read it. You should also consult the Faculty of Arts web page on plagiarism [http://watarts.uwaterloo.ca/~sager/plagiarism.html], and you should feel free to talk to me or one of the TAs if you have any questions.

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 http://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. Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean.

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. They can be reached via phone at 519 888 4567 ext. 35082 or on the web at http://www.studentservices.uwaterloo.ca/disabilities/

Tentative Class Schedule – 1 of 2

Date	Class Topic	Material Due
Jan 5th	Introduction Lab #1 Data Collection	Lab #1 Reading**
Jan 10th	A Brief History of Memory Research Lab #1 Methods Overview	Chapter 1
Jan 12th	Methods of Memory Research Lab #1 Analysis	Chapter 3
Jan 17th	Short-Term and Working Memory Lab #1 Discussion (includes discussion of Lab #1 Reading)	Chapter 5
Jan 19th	Encoding and Retrieval of Information Lab #1 Writing Guidelines	Chapter 6
Jan 24th	Distortions of Memory Lab #1 Q&A	Chapter 10
Jan 26th	Memory Judgments Lab #1 Peer Editing	Chapter 11 ***Draft of Lab #1***
Jan 31st	Recollection and Familiarity Lab #1 Q&A	Chapter 14
Feb 2nd	Control Processes in Remembering	Chapter 21 ***LAB #1 DUE***
Feb 7th	Remembering Life Experiences Midterm Q&A and Review	Chapter 20
Feb 9th	Midterm Review	
Feb 14th	***MIDTERM***	
© Feb 16th	Finding Articles for Lab #2	
Feb 21st	***READING WEEK***	
Feb 23rd	***READING WEEK***	

Tentative Class Schedule – 2 of 2

Date	Class Topic	Material Due
© Feb 28th	Tutorial on Programming Experiments and Data	
© Mar 2nd	Tutorial on Programming Experiments and Data	
© Mar 7th	Group Research Proposals	3 Articles A Research Idea
© Mar 9th	Group Work Programming Experiments	
© Mar 14th	Group Work Programming/Running Experiments	Experiment Programmed
© Mar 16th	Group Work Running Experiments	Data Collected
© Mar 21st	Data Analysis	Data Analyzed
© Mar 23rd	Tutorial on Giving Presentations	
Mar 28th	Conference Presentations	Presentation Ready
Mar 30th	Conference Presentations	
Apr 4th	NO CLASS	
Apr 11th	***LAB #2 DUE (NO CLASS)***	

ENJOY YOUR SUMMER!

All classes on dates marked with © will occur in the computer lab in PAS 1237.

** NOTE that you should read the Lab #1 Article as soon as possible as it will be discussed often in the first half of the class. Furthermore you are encouraged to re-read the article before important classes to ensure that you are clear on its details and you get the most out of the Lab #1 tutorials.