

# Psychology 394 Research in Cognition and Perception Winter 2012, Section 1

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

**Location:** DWE 3519 (lectures), PAS 1237 (labs)

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**Instructor:** Jennifer Tomaszczyk

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**Teaching Assistant:** Ester Moher

**Office Hour:** TBA

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**Office:** TBA

## Required Readings

There is no textbook for this course. Readings will consist of selected journal articles which can be obtained either from the course web site or accessed directly through the UW Library's web site: <http://www.lib.uwaterloo.ca/>. The titles of the course readings will be posted on the course web site so that you can access them.

\*Please note that due to recent changes in UW's access to copyrighted materials, instructors are prohibited from posting certain material on the course web site. To help students find journal articles for course readings in an efficient manner, I have arranged in-class sessions with a librarian.

## Course Description

This course will explore various topics in cognition and perception research, with special attention being paid to the methods and procedures used in research studies. The course is designed with three principal objectives in mind: First, to develop your skill at reading journal articles, which form the knowledge base of the psychological sciences. The second objective is to develop your oral communication skills by taking what you have read and present it to the class. Finally, the course material and structure will help you to develop your ability to critically evaluate scientific literature by challenging the ideas, conclusions, and methods presented in articles, in the context of class discussions.

Because the best way to learn about psychological research is to do it, there is also a lab component to this course. The main goals of the lab component are to give you "hands-on" experience with collecting and graphing data from psychological experiments in the domains of cognition and perception, and to develop your technical writing skills by writing up the results.

## Course Structure & Requirements

In addition to lectures, there will be several class discussions of journal articles related to the current week's topic. ***You are expected to have read the assigned journal article before class so that you can actively participate in the class discussions!***

Attendance at lectures and class discussions is strongly encouraged, as the material presented and discussed will be tested on the mid-term test. In the lab sessions, you will participate in psychological experiments, collect and graph the resulting data, and write up the results in short reports. You will also have the opportunity to learn what it is like to administer and complete standard neuropsychological tests used to evaluate different cognitive functions. Finally, you and a partner will give a short demonstration to the class on a method of your choosing that is used in research on cognition or perception. The last few classes of the course will be reserved for student presentations. For the presentation, you and a partner will read and present the findings of a journal article and lead a class discussion. (More details on these course requirements are presented below.)

### Overview of Evaluation

|   |  |     |
|---|--|-----|
| Mid-term Test.....                      | <b>Thursday February 16<sup>th</sup></b> ..... | 30% |
| Lab Write-Ups.....                      | 6 x 4% each =.....                             | 24% |
| Activity Worksheets.....                | 3 x 2% each =.....                             | 6%  |
| Group Methods Demonstration.....        |  | 10% |
| Group Presentation.....                 |  | 20% |
| Participation in Panel Discussions..... |  | 10% |

### Details of each Evaluation Component:

#### 1) 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, course readings (journal articles), and in the class discussions. The test will be 1 hour and 30 minutes in length.

#### 2) Lab Write-ups

In the lab sessions, you and your classmates will participate in a psychological experiment, collect the resulting data, and write short reports about the aggregated results of the experiment. These reports include: writing up the procedure used in the experiment, graphing the data, writing up the results, and making a conclusion statement. There will be three different experiments (each lasting two lab sessions), with each experiment exploring a different topic of research: memory, attention, and perception. All lab activities and write-ups are to be completed during the scheduled lab time, and are worth 4% each (6 labs X 4% = **24% of your grade**). **NOTE that all labs take place on the dates indicated in the syllabus (in bold), in PAS 1237.**

#### 3) Activity Worksheets

There will be three worksheets to complete. The first worksheet will be completed as part of the Neuropsychological Tests session (Tuesday, February 14<sup>th</sup> on the course

schedule below). In this session, you and a partner will take turns administering and completing different neuropsychological tests used to assess cognitive function. The other two worksheets will be completed during the Group Methods Demonstration sessions. All worksheets are to be completed during the scheduled class time, and are worth 2% each (3 worksheets X 2% = **6% of your grade**).

#### **4) Group Methods Demonstration**

The purpose of the demonstrations is to gain a deeper understanding of, and appreciation for, the various methods, paradigms, theoretical approaches, and apparatuses currently and historically used to investigate phenomena in the domains of cognition and perception. For the demonstration, you and a partner will explain, in detail, a method relevant to cognition/perception research by giving a fun and interactive demonstration of the method to your classmates. **For this demonstration, it is expected that you work in close collaboration with your partner. Both partners are expected to present a portion of the demonstration/explanation, and both partners will receive the same grade for the demonstration.** Later on in the course you will be given a list of possible methods to demonstrate, but of course you are welcome and encouraged to demonstrate a method/paradigm/approach/apparatus completely of your choosing, with approval from the course instructor. *\*Additional details about the specific requirements of the demonstrations will be provided in class later on during the course.* The demonstration is worth **10% of your grade**.

#### **5) Group Presentation**

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 1: Presentation of a Journal Article**

Read the relevant journal article. Each student must prepare a 10-15 minute Power Point presentation. Each student will review the key points, and methods, presented in their article, and state how the specific method/paradigm/theoretical approach/specialized apparatus used in the study may have affected the specific results that were obtained, the way in which the results were interpreted, or the conclusions that were drawn by the researchers. Also, please note real world examples of the phenomenon. *\*Additional details about the specific requirements of the presentations will be provided in class later on during the course.* 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 2: Leading a Class “Panel” Discussion

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 (questions can be based on the journal articles presented, or 3 “group” questions relating to the overall theme of the journal articles). 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 everyday life to support their answers)

### 6) Participation in Panel Discussions

During the Panel Discussions (except your own), you will be expected to participate by:

1) Attempting to answer the panel questions specifically and/or by contributing to the class discussion in a meaningful way (e.g., bringing up related ideas, extending the ideas from the presentations, questioning/critiquing the logic, methods, interpretation in the studies, etc.).

2) Providing written feedback to the Group Presenters.

Participation is worth **10% of your grade.** You can earn up to 2% per Panel Discussion session by oral participation in the discussion, by providing written feedback, or by a combination of both. ***However, you can only earn up to half of your participation grade by providing written feedback (maximum of 5 feedback sheets completed); at least half of your participation grade must come from oral participation in the class panel discussions! Of course, you can choose instead to earn your entire participation grade from oral participation, if you wish.***

[The following pages contain the Tentative Schedule for classes:](#)



| Topic   | Readings and Assignments                     | Dates                             |
|---|--|-----------------------------------|
| Syllabus<br>How to Find Course Readings                                       | none   | Tuesday January 3 <sup>rd</sup>   |
| Lecture 1: Introduction to Cognition/Perception Research<br>Lecture 2: Memory | journal articles on memory                   | Thursday January 5 <sup>th</sup>  |
| <b>Lab 1: Memory Experiment I</b>   | Write-up of procedure (due at end of lab)    | Tuesday January 10 <sup>th</sup>  |
| Lecture 3: Metacognition & Article Discussion                                 | Metacognition Research Article               | Thursday January 12 <sup>th</sup> |
| <b>Lab 2: Memory Experiment II</b>  | Graph & Results Write-up (due at end of lab) | Tuesday January 17 <sup>th</sup>  |
| Lecture 4: Attention I  | journal articles on attention                | Thursday January 19 <sup>th</sup> |
| <b>Lab 3: Attention Experiment I</b>  | Write-up of procedure (due at end of lab)    | Tuesday January 24 <sup>th</sup>  |
| Lecture 5: Attention II & Article Discussion                                  | Attention Research Article                   | Thursday January 26 <sup>th</sup> |
| <b>Lab 4: Attention Experiment II</b>   | Graph & Results Write-up (due at end of lab) | Tuesday January 31 <sup>st</sup>  |
| Lecture 6: Perception   | journal articles on perception               | Thursday February 2 <sup>nd</sup> |
| Lecture 7: Learning & Article Discussion                                      | Learning Research Article                    | Tuesday February 7 <sup>th</sup>  |

| Topics   | Readings and Assignments                        | Dates                                    |
|--|---|--|
| How to Search for Journal Articles<br><br>Lecture 8: Executive Functions | journal articles on Executive Functions         | Thursday February 9 <sup>th</sup>        |
| <b>Lab 5: Neuropsychological Tests</b>                                   | Worksheet<br>(due at end of lab)                | Tuesday February 14 <sup>th</sup>        |
| <b>Mid-Term Test</b>   | <b>Mid-Term Test</b>                            | <b>Thursday February 16<sup>th</sup></b> |
| Reading Week   | NO CLASS  | Tuesday February 21 <sup>st</sup>        |
| Reading Week   | NO CLASS  | Thursday February 23 <sup>rd</sup>       |
| <b>Lab 6: Perception Experiment I</b>                                    | Write-up of procedure<br>(due at end of lab)    | Tuesday February 28 <sup>th</sup>        |
| Group Methods Demonstrations I   | Worksheets<br>(due at end of class)             | Thursday March 1 <sup>st</sup>           |
| <b>Lab 7: Perception Experiment II</b>                                   | Graph & Results Write-up<br>(due at end of lab) | Tuesday March 6 <sup>th</sup>            |
| Group Methods Demonstrations II  | Worksheets<br>(due at end of class)             | Thursday March 8 <sup>th</sup>           |

| Topics                | Readings and Assignments  | Dates   |
|-----------------------|---|---|
| Student Presentations | Group 1: Aging & Cognition<br>Group 2: Aging & Perception   | Tuesday March 13 <sup>th</sup>                      |
| Student Presentations | Group 3: Emotion & Cognition<br>Group 4: Emotion & Perception   | Thursday March 15 <sup>th</sup>                     |
| Student Presentations | Group 5: Cross-cultural differences in Cognition<br>Group 6: Cross-cultural differences in Perception | Tuesday March 20 <sup>th</sup>                      |
| Student Presentations | Group 7: Autobiographical Memory & Depression<br>Group 8: Attention & Anxiety                         | Thursday March 22 <sup>nd</sup>                     |
| Student Presentations | Group 9: Metacognition (Judgments of Learning)<br>Group 10: Theory of Mind in Children                | Tuesday March 27 <sup>th</sup>                      |
| Student Presentations | Group 11: Eye tracking & Visual Attention<br>Group 12: Processing Fluency & Memory                    | Tuesday March 29 <sup>th</sup><br><b>Last Class</b> |

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

See your teaching assistant, Ester Moher, if you have questions about material covered in the journal articles. See the instructor for questions about material covered in the lectures.

### **Course Web page / What is Waterloo LEARN?**

Waterloo LEARN 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 will also be posted on Waterloo LEARN. Waterloo LEARN will also be used to post marks to the grade-book, and track student progress.

### **How do I log on to Waterloo LEARN?**

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

### **What should I do if I can't get logged into Waterloo LEARN?**

If you are having trouble logging in, please confirm that your QUEST/UWdir userid and password are correct. Please note that Waterloo LEARN 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 cannot 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** [learnhelp@uwaterloo.ca](mailto:learnhelp@uwaterloo.ca) stating your name, UWuserid, student ID number and the course to which you wish access.

### **Policy for missed test/ assignment:**

**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](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 extension. **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**

*It is the student's responsibility to hand in late assignments 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 Waterloo LEARN, the outline on Waterloo LEARN will be deemed the official version. Outlines on Waterloo LEARN 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](mailto: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), <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm> For typical penalties 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), <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](http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm) (Student Petitions and Grievances) (other than a petition) or [Policy 71](http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm) (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](http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm) (Student Appeals) <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

**Academic Integrity website (Arts):**

[http://arts.uwaterloo.ca/arts/ugrad/academic\\_responsibility.html](http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html)

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

***About Your Instructor***

My research compares older (60+ years of age) and younger (17-30 years of age) adults' memory for, and attention to, emotional information such as faces, words, autobiographical events, and pictures. My current research explores the cognitive mechanisms that underlie a relatively new finding in the literature, that older adults often show enhanced memory for, and attention to, positive information, when compared with younger adults.