

PSYCH 394: Research in Cognition and Perception

Winter 2015

Time and place: Tuesday/Thursday, 10:00 - 11:20, PAS 4032

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Office Hours: Tuesdays 1pm - 2pm

Instructor Availability

If you want to set up a meeting or ask questions outside of class, then I welcome you e-mailing me or coming to my office (I'm happy to see students in my office at most times, or, failing that, to set up a time to meet). You can always email me (or the TA, Syaheed) with questions (including most nights and weekends). We try and answer all questions over email within several hours.

Course Description

What is this course about? The intent is twofold. First, there are some nuts and bolts that you should learn about doing experiments, from a case study approach to multiple subjects, from human experimentation to computational modeling. This includes a mercifully short introduction to such topics as signal detection theory, speed/accuracy issues, ceiling and floor constraints, underlying psychological scales, factorial experiments from the viewpoint of additive factors analyses, range effects, asymmetrical transfer effects, etc. **Do not be alarmed** at the fact that all of these terms are probably completely new to you. If you knew them all you wouldn't have to take this course. Yes, you took 291; but no, these issues were not, in the main, covered there. Secondly, the intent is to expose students to a fair number of issues that have concerned some cognitive psychologists in recent years. These issues can be considered enduring in several senses. One is that they have attracted a lot of attention at one point or another (or it seems likely that they will do so in future). Another reason they are hot is because the results are often not immediately "intuitive" and in some cases they tend to make us uncomfortable because they challenge our ideas about memory, consciousness and control. **The main idea here is to have you be challenged and have some intellectual "fun"**. ("Fun" here means considering papers on, for example, vegetative states, memory under anaesthesia, cognitive neuropsychiatry, etc.)

Reading material

References for these specific papers will be provided in due course. There is NO book for the course; instead, you will read primary source material.

Marking scheme

Formal marking, in today's climate, tends to undermine learning for the sake of learning (intellectual curiosity). Students tend to be very anxious about their marks and how they will affect their future choices (e.g., graduate school). In an attempt to balance the formal need for marking with the goal of stimulating "interest" in the papers themselves, I've adopted the following scheme.

Presentations (16%)

Each student will present at least one and likely more papers. This presentation should be clear, comprehensive and yet concise (but please, let's not get bogged down in the details of things like the F ratios). It is a good idea (but not required) for the presenter to meet with me **well in advance of their presentation to discuss the paper**.

Note that there will be no class or presentations during Reading Week (Feb 16 – Feb 20).

Participation (10%)

I'm well aware (really) that some students are shy and find speaking in class to be onerous. That said, part of a university education involves the formal presentation of self (and this matters in all walks of life). Like everything else, skill develops with practice.

Quizzes (64%)

These will be **short**, multiple choice or short answer quizzes every Thursday (not counting our first week). They will be held at the beginning of class and take up no more than 20 minutes. There are sound, evidence-based reasons for testing you every week. (Trust me, I'm a doctor). There are **no make-ups** for missed quizzes. Your mark will be based on the best **8** quizzes.

Commentaries (10%)

There are 3 of these. You will summarize or provide a commentary on any **one** of the week's topics. The **maximum** length is **one** double spaced page, and the paper must be typed in 12 point font size. Spelling and grammar count (just as they do in the real world – like it or not, people make judgments about you based on your writing, along with your attention to detail and care in presentation). The purpose of the commentaries is to think critically about the papers.

One commentary is due **before** the end of each month. **No extensions will be provided**, so plan accordingly. Submit your commentaries into the assignment dropbox (.doc or .pdf format is fine) by the following dates:

1. January 31st, 11.59pm
2. February 28th, 11.59pm
3. March 31st, 11.59pm

Research Participation (Bonus 4%)

You can earn four percent (4%) in bonus marks from participation in experiments through the Research Experiences Group (see details below under Research Experiences Group (REG) Participation in Psychology Research). In this instance .5% can be earned by participating in one half hour experiment, so to get the full 4% you will need to complete 4 full hours of experiments (see details below).

Academic Integrity

How to Avoid Plagiarism and Other Written Offences: A Guide for Students and Instructors (<http://watarts.uwaterloo.ca/~sager/plagiarism.html>).

The Faculty of Arts requires that the following message be included on all syllabi distributed in the Faculty of Arts:

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 www.uwaterloo.ca/academicintegrity/ for more information.]

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, 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.

Discipline: A student is expected to know what constitutes academic integrity [check www.uwaterloo.ca/academicintegrity/] to avoid committing an academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (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 offences and types of penalties, students should refer to Policy 71, Student Discipline, www.adm.uwaterloo.ca/infosec/Policies/policy71.htm. For typical penalties check Guidelines for the Assessment of Penalties, www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm.

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 he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm.

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.

Avoiding Academic Offences:

http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html

Research Experience Marks Information and Guidelines

Experiential learning is considered an integral part of the undergraduate program in Psychology. Research participation is one example of this, article review is another. A number of undergraduate courses have been expanded to include opportunities for Psychology students to earn grades while gaining research experience.

Since experiential learning is highly valued in the Department of Psychology, students may earn a **"bonus" grade of up to 4%** in this course through research experience. Course work will make up 100% of the final mark and a "bonus" of up to 4% may be earned and will be added to the final grade if/as needed to bring your final grade up to 100%.

The two options for earning research experience grades (participation in research and article review) are described below. Students may complete any combination of these options to earn research experience grades.

Option 1: Participation in Psychology Research

Research participation is coordinated by the Research Experiences Group (REG). Psychology students may volunteer as research participants in lab and/or online (web-based) studies conducted by students and faculty in the Department of Psychology. Participation enables students to learn first-hand about psychology research and related concepts. Many students report that participation in research is both an educational and interesting experience. Please be assured that all Psychology studies have undergone prior ethics review and clearance through the Office of Research Ethics.

Educational focus of participation in research

To maximize the educational benefits of participating in research, students will receive feedback information following their participation in each study detailing the following elements:

- Purpose or objectives of the study
- Dependent and independent variables
- Expected results

- References for at least two related research articles
- Provisions to ensure confidentiality of data
- Contact information of the researcher should the student have further questions about the study
- Contact information for the Director of the Office of Research Ethics should the student wish to learn more about the general ethical issues surrounding research with human participants, or specific questions or concerns about the study in which s/he participated.

Participation in LAB studies is worth 0.5 participation credits (grade percentage points) for each 30-minutes of participation. Participation in ONLINE studies is worth .25 credits for each 15-minutes of participation. Researchers will record student's participation and will advise the course instructor of the total credits earned by each student at the end of the term.

How to participate?

Study scheduling, participation and grade assignment is managed using the SONA online system. All students enrolled in this course have been set up with a SONA account. You must get started early in the term.

[INSTRUCTIONS/DATES/DEADLINES: How to log in to Sona and sign up for studies](#)

**** Please do not ask the Course Instructor or REG Coordinator for information unless you have first thoroughly read the information provided on this website. ****

More information about the REG program is available at:

[REG Participants' Homepage](#)

Option 2: Article Review as an alternative to participation in research

Students are not required to participate in research, and not all students wish to do so. As an alternative, students may opt to gain research experience by writing short reviews (1½ to 2 pages) of research articles relevant to the course. The course instructor will specify a suitable source of articles for this course (i.e., scientific journals, newspapers, magazines, other printed media). *You must contact your TA to get approval for the article you have chosen before writing the review.* Each review article counts as one percentage point. To receive credit, you must follow specific guidelines. The article review must:

- **Be submitted before the [last day of lectures](#). Late submissions will NOT be accepted under ANY circumstances.**
- Be typed
- Fully identify the title, author(s), source and date of the article. A copy of the article must be attached.
- Identify the psychological concepts in the article and indicate the pages in the textbook that are applicable. Critically evaluate the application or treatment of those concepts in the article. If inappropriate or incorrect, identify the error and its implications for the validity of the article. You may find, for example, misleading headings, faulty research procedures, alternative explanations

that are ignored, failures to distinguish factual findings from opinions, faulty statements of cause-effect relations, errors in reasoning, etc. Provide examples whenever possible.

- Clearly evaluate the application or treatment of those concepts in the article.
- Keep a copy of your review in the unlikely event we misplace the original.