PSYCH 394
Research in Cognition and Perception
Winter 2017
Time: Monday/Wednesday, 10:00 - 11:20
Place: PAS 4032

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Office Hours: Tuesday 2pm-3pm

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, Martin) with questions (including most nights and weekends). We try and answer all questions over email within several hours.

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 designs with multiple subjects, as well as some computational modelling. 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.

Please: 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 need this course. Yes, you took 291; but no, these issues were not, in the main, covered there, or if they were covered you have forgotten about them!

Secondly, the intent is to expose students to a fair number of issues that have concerned various 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 of interest 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 specifics 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 there is sometimes an opportunity to present a second paper. 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 values. That said, the presenter should know this information if challenged). It is a good idea (but not required) for the presenter to meet with me **well in advance of their presentation so as to discuss the paper.**

Participation (5%)
I'm well aware (really) that some students are shy and find speaking up 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. However, this 5% is "free" in that everyone gets its automatically. It is an incentive to participate—but there is no penalty for not participating.

Quizzes (64%)
These will be **short**, multiple choice or short answer quizzes every Wednesday (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.

Summaries (15%)
You must submit a maximum one- page summary of one of the papers we read each week. This is to be double spaced, size 12 font. The intent here is to encourage you to read the papers. My reasoning is that this helps you to understand the formal presentations better, and more easily. Grammar and spelling count. These are marked on a pass/fail manner. For example, if you wrote a summary for one of the papers each week, and each one passed, then you would receive 15%. If only half your summaries passed muster then you would receive 7.5%. I expect that the vast majority of these summaries would pass. These papers are due at the end of every week (Friday). These will not be returned to you unless they fail, in which case you can see where you have gone wrong.

Research Participation (Bonus 2%)
You can earn two percent (2%) 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 2% you will need to complete 2 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 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 articles 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.