

PSYCH307 Human Neuropsychology – Fall 2011

Instructor: Dr. Roxane Itier
PAS 4023
Office Hours: By appointment only.
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*** Classes: Mondays and Wednesdays 10-11:20am RHC 307 ***

Teaching Assistants

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Course Web Page

Lectures will be available on UW-ACE the night before the lecture, under the “lessons” link. UW-ACE will be the primary source of relevant information for the course. Links to the short videos seen in class will also be posted on UW-ACE after the lecture, under “resources” link.

Course Description and Aims

This course will provide you with a broad understanding of methods in human neuropsychological research including functional imaging and group and single case lesion studies, as a means of providing a broad understanding of human neuropsychology/cognitive neuroscience. Both basic research and clinical examples will be used to explore the brain-behaviour relationships inherent in motor control, language, vision, attention, memory, emotion and executive control.

Course Textbook

Banich, M. T. & Thompson, R.J. *Cognitive Neuroscience. Third edition.* (2011) Wadsworth, Cengage Learning, CA, USA.

Assessment

* There will be **three mid-term exams**, each worth **25% of the final grade** (total 75%), each covering one section of the course. Each exam will be a mixture of multiple choice, fill-in-the-blanks, diagrams and short answer questions.

* Five percent (**5%**) of your grade will come **from participation in research experiments** (see details below under **Research Experiences Marks – information and guidelines**). In this instance 0.5% can be earned by participating in one half hour experiment, so to get the full 5% you will need to complete 5 full hours of experiments (see details below). If you decide you do not want to participate in experiments you can complete alternate assignments, each worth 1%. So if you choose to collect 4 experimental credits you can make up the final 1% through an assignment. If you chose not to do any experimental credits you will need to do 5 assignments.

See details concerning alternate assignments under Research Experience Marks below.

Alternate assignments must all be finalised before December 6th. Late submissions for alternate assignments will NOT be accepted under ANY circumstances. Experimental credits deadline will be online (see details under Research Experiences Marks below).

* The final **20% of your final grade** will come from **1 written assignment**. You will choose one article from a list of 4 papers that will be available on UW-ACE after the first exam.

Each written assignment is a critique of a research article chosen from a list, worth 20% of the course grade. It is graded out of 40 marks, and is made up of four sections

- Summary of the article (6 marks). This section describes the purpose of the research (as described by the authors), the methods that were used, the main findings (and other important findings that may shape future research), and the conclusions that the authors draw from their results (i.e., why should anyone care about their study, and what do the results mean).
- Positive aspects (10 marks). Describe and explain several aspects of the research that makes the results and conclusions stronger in some way. Provide justification for why each is a positive aspect (and not a negative/neutral) and be clear about how it specifically makes the experiment better. (i.e., Does it remove bias -- if so how? Does it help control for something -- if so, how? Does it add power to their statistical measures-- if so, how? etc.)
- Negative aspects (10 marks). Same as positive aspect, but for aspects that weaken the paper. Remember to be specific and to describe how each negative aspect impacted the study and why it is important.
- Proposal (12 marks). Describe an alternate experiment to address the research question in the paper. Explain the motivation (i.e., what you would have done differently and why), the method, your hypotheses, and potential issues. It should be clear what contribution your experiment can make beyond that in the target article.
- Style and formatting (2 marks). References to scientific research should be in American Psychological Association (APA) format. Papers should be written using 12-point font and double-spaced lines (no extra lines between paragraphs). **Excluding references, papers must be at least 4 pages and at most 5 pages long.** References can NOT come from the web – source material MUST include original scientific journal articles.

Due date for the written assignment: November 21st

Late submissions for the assignment will NOT be accepted. Late submissions will result in a 0 mark for the assignment.

Course Outline

Chapters 1 and 2 are assumed known knowledge from previous years. You are required to read them. The following is the expected progression of the course and may not be exact. Each exam will cover material up to the last lecture of the section prior to the exam date, regardless of where we end up in topics (exams are not cumulative).

Section 1

September 12 th		Introduction to Human Neuropsychology	
Sept 14 th	Topic 1	Methods to study Human Neuropsychology	(Chapter 3)
Sept 19 th	Topic 2	Hemispheric Specialisation	(Chapter 4)
Sept 21 st	Topic 3	Motor Control	(Chapter 5)
Sept 26 th	Topic 3	Motor Control	(Chapter 5)
Sept 28 th	Topic 4	Early perceptual processing	(Chapter 6)
Oct 3 rd	Topic 4	Early perceptual processing	(Chapter 6)
Oct 5th		***Exam section 1***	
Oct 10th		Thanksgiving	

Section 2

Oct 12 th	Topic 5	Object recognition	(Chapter 7)
Oct 17 th	Topic 6	Face processing and social cognition	(Chapter 7)
Oct 19 th	Topic 7	Spatial Cognition	(Chapter 8)
Oct 24 th	Topic 8	Language	(Chapter 9)
Oct 26 th	Topic 8	Language	(Chapter 9)
Oct 31 st	Topic 9	Memory	(Chapter 10)
Nov 2 nd	Topic 9	Memory	(Chapter 10)
Nov 7th		***Exam section 2***	

Section 3

Nov 9 th	Topic 10	Attention	(Chapter 11)
Nov 14 th	Topic 10	Attention	(Chapter 11)
Nov 16 th	Topic 11	Executive Functions	(Chapter 12)
Nov 21 st	Topic 12	Emotion and Social Cognition	(Chapter 13)
Nov 21st		***Assignment due***	
Nov 23 rd	Topic 11	Emotion and Social Cognition	(Chapter 13)
Nov 28 th	Topic 13	Psychopathology	(Chapter 14)
Nov 30 th	Topic 13	Brain development and plasticity	(Chapter 14)
Dec 3rd		***Exam section 3***	

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 informaton.]

Discipline: A student is expected to know what constitutes academic integrity, 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. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 - Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71](http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm) - Student Discipline, <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.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](http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm) - Student Petitions and Grievances, Section 4, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read [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

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

Accommodations for Students with Disabilities

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.

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.

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:

- 1) 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
- 2) 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.

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 **up to 5% of the final mark** in this course through research experience (i.e., the course work will make up 95% of your final mark and research experience will make up the other 5% for a maximum grade of 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 marks.

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 is worth 0.5 participation credits (grade percentage points) for each half-hour 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.

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. It is **VERY IMPORTANT** that you get an early start on your studies. For detailed instructions on when and how access your SONA account and for a list of important dates and deadlines please, as soon as possible, click on:

<http://www.arts.uwaterloo.ca/~regadmin/regparticipant/sonainfo/#SonaSignUp>

**** 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:

<http://www.arts.uwaterloo.ca/~regadmin/regparticipant/>

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 lecture. 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.