

## Psychology 261, Fall 2011 Physiological Psychology

**Time:** Tu/Th 11:30AM – 12:50AM

**Place:** AL 113

**Instructor:** Grayden Solman

**Office:** PAS 2238

**E-mail:** [gsolman@uwaterloo.ca](mailto:gsolman@uwaterloo.ca)

**Office Hours:** Thursday 3:00 – 5:00 (and by appointment)

### Required Text:

Kalat, J. W. (2009). Biological Psychology, 10<sup>th</sup> Edition, Belmont, CA: Wadsworth

### Teaching Assistants:

<u>Name</u>	<u>e-mail</u>	<u>Office</u>	<u>Office Hours</u>
Paul Seli	<a href="mailto:pseli@uwaterloo.ca">pseli@uwaterloo.ca</a>	PAS 2241	W 11:00 am to 12:00 pm
Punya Singh	<a href="mailto:p9singh@uwaterloo.ca">p9singh@uwaterloo.ca</a>	PAS 2237	M 12:00 pm to 1:00 pm

### Course Description:

The goal of this course is to introduce you to the scientific study of the brain and how it is involved in cognition and behavior. Throughout the course we will discuss a variety of methods used for studying the relation between the brain, cognition and behavior. These will include neuroimaging, brain stimulation, the use of animal models and various biochemical methods. Topics that will be covered include neural function, neuroanatomy, psychopharmacology, the senses (e.g., vision), memory, emotion, sleep and mental disorders (e.g., mood disorders). The studies discussed will include both classic work as well as current cutting-edge research.

Because of the size of the class, I will spend most of class time lecturing. However, I encourage questions and comments and I am sure that interesting discussions will spontaneously emerge during the class. I would like to highlight that it is important that you attend lectures and study the textbook. Although there will be some overlap between lectures and text, there will be material that does not overlap. You are responsible for all of the material covered in class and in the assigned readings.

### Evaluation:

4 Tests (24% each, non-cumulative)	96%
Participation in Experiments	4%

Tests: The purpose of the four tests is to assess your understanding of the material in the course. The tests will not be cumulative. Each test will be 70 minutes in length and will be based on the material presented in the text and in lectures. Given the size of the class, each test will contain mainly multiple choice questions, with some short answer/fill-in the blank questions and will be written either in the regular classroom or in rooms to be determined (information on test location will be posted on UW ACE, and during lectures).

Participation in Experiments: Student participants may earn up to 4 percentage points towards their final mark in Psychology 261 by participating in Cognitive Psychology and Behavioral Neuroscience studies

conducted by students and faculty in the Department of Psychology. **See attached guidelines for participation in psychology research for more details.**

### **E-Mail Communication:**

Students are responsible for all e-mail that is sent to their official UW e-mail address. Check your e-mail regularly for important and time sensitive messages.

### **UW ACE:**

I will be using UW ACE to **post lecture notes, grades, and the course syllabus. Course announcements, and answers to frequently asked questions will also be posted on UW ACE.** Make sure you check your UW ACE account regularly to stay on top of the material in the course and any announcements.

### **Policy Regarding Illness:**

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.

### **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 ACE, the outline on ACE will be deemed the official version. Outlines on ACE may change as instructors develop a course, but they become final as of the first class meeting for the term.

### **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, 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 professor, 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 - Student Discipline](#), <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> When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

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 - 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):

**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/>

**Tentative\* Lecture Schedule:**

<b>DATES</b>	<b>TOPICS</b>	<b>READINGS</b>
Sept 13	Introduction	1.1 – 1.3
Sept 13 - 29	Neuroanatomy Neurons Neurotransmitters & Psychopharmacology Brain development	4.1 – 4.2, 2.1 – 2.2, 3.1 – 3.2 3.3 4.3 (p.114-115), 5.1
<b>*** Oct 4 ***</b>	<b>TEST 1</b>	
Oct 6 - 18	Methods and Tools Vision	4.3 6.1 – 6.3
<b>*** Oct 20 ***</b>	<b>TEST 2</b>	
Oct 25 – Nov 8	Audition Other Senses Plasticity Learning & Memory Sleep	7.1 7.2 – 7.3 5.2, 13.2 13.1 – 13.2 9.1 – 9.3
<b>*** Nov 10 ***</b>	<b>TEST 3</b>	
Nov 15 - 29	Motor systems Cognitive Control Emotions Disorders	8.1 – 8.3 readings on UW-ACE 12.1 – 12.3 8.3, 15.1 – 15.2
<b>*** Dec 1 ***</b>	<b>TEST 4</b>	

**\* Please note that the details of this schedule might change depending on class interest and possible class interruption due to unexpected events. I will announce any changes either in class on UW**

**ACE so make sure you are regularly attending class and checking UW ACE.**

## 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 4% of the final mark** in this course through research experience (i.e., the course work will make up 96% of your final mark and research experience will make up the other 4% 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.

Students may complete any combination of a) participation in research or b) article review up to a total of 4 credits (i.e., 4% grade).

**List of acceptable journals:** Journal of Cognitive Neuroscience; Neuroscience; Neuropsychology; Neuropsychologia; Brain Research; Brain and Cognition; Neuron; Nature; Nature Reviews Neuroscience.