University of Waterloo
Department of Psychology
Psych 261
Physiological Psychology
Winter 2014
M,W, F, 9:30 a.m. to 10:20 a.m.

Instructor and T.A. Information

Instructor: Daniel Smilek, PhD
Office: PAS 4051
Office Hours: Fridays 10:30-12:30, and by appointment
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Office	PAS 2245	PAS 4219	PAS 2261
Office Hours	Tues, 1:00 -2:00	Thur, 10:00-11:00	Tues, 10:00–11:00

Course Description

This course is an introduction to the physiology of the brain and to the scientific study of how the brain is involved in perception, cognition, emotion and behaviour. Although the focus will be primarily on the human brain, various animal models and analogs will also be discussed. The course includes a discussion of a variety of research methods, such as commonly used neuroimaging techniques, brain stimulation, and biochemical methodologies. 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 spontanesouly emerge during the class. You will also have an opportunity to participate by responding to questions using the iClicker. 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.

Required Material

- Required Text: Kalat, J. W. (2013). Biological Psychology, 11th Edition, Belmont, CA: Wadsworth.
- An iClicker will also be required, which you can purchase new or used at the UW Bookstore.

Course Requirements and Assessment

Assessment	Date of Evaluation	Weighting
Test 1	January 24, 2014	23%
Test 2	February 14, 2014	23%
Test 3	March 14, 2014	23%
Test 4	April 4, 2014	23%
Class Participation (iClickers)	Date of Evaluation 5	4%
Participation in Experiments	Date of Evaluation 6	4%
Total		**100%**

Tests

The course is essentially devided into four sections with a test at the end of each section. The purpose of the tests is to assess your understanding of the material in the course. The tests will not be cumulative. Each test will be 45 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. The tests will be written either in the regular classroom or in rooms that are yet to be determined.

Class Participation

During each class I will periodically present multiple choice questions and you will be required to respond to these questions using an iClicker. Your specific responses to these questions will not be greaded, but you will receive participation points for responding. It is important that you do you best when answering the iClicker questions because they will give you an idea of the sorts of questions that will be asked on the tests and you will also receive feedback about your knowledge of the course material. Your participation points will be computed by taking the number of questions you responded to over the term as a proportion of the total number of questions asked throughout the course. This score will count for 4% of your overall grade.

Participation in Experiments

You will be able to earn up to 4 percentage points towards your final grade by participating in Cognitive Psychology and Behavioral Neuroscience studies conducted by students and faculty in the Department of Psychology. Please refer to the attached guidelines for participation in psychology research for more details.

Course Outline

Below is a tentative reading schedule. I would like to emphasize that this is only a tentative schedule and topics and readings may change as a result of class interest as well as delays due to the occurance of unexpected events. I will announce any changes that might arise in class and/or on LEARN so make sure that you attend class and check LEARN on a regular basis.

Week	Date	Topic	Readings Due
1	January 6, 8, 10	Introduction / History	Modules 1.1 – 1.3
2	January 13, 15, 17	Neurons	Modules 2.1 – 3.1
3	January 20, 22, 24	The Synapse / Drugs and Test 1	Modules 3.2 – 3.3
4	January 27, 29, 31	Neuroanatomy	Modules 4.1 – 4.2
5	February 3, 5, 7	Methods /Neural Development	Modules 4.3 & 5.1
6	February 10, 12, 14	Plasticity / Vision and Test 2	Modules 5.2, 6.1 – 6.2
7	February 17, 19, 21	Reading Week	Week 7 readings
8	February 24, 26, 28	Vision / Other Senses	Modules 6.3, 7.1 – 7.2
9	March 3, 5, 7	Sleep	Modules 9.1 – 9.3
10	March 10, 12, 14	Emotion and Test 3	Modules 12.1 – 12.2
11	March 24, 26, 28	Consciousness / Attention / Special Topic	Module 14.3
12	March 31, April 2, 4	Disorders & Test 4	Module 15.1 – 15.2

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

Accomodation for Students with Disabilities:

The Access-Ability Services Office, 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 Access-Ability Services Office 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 Studies (Myra Fernandes from July 1, 2012 through June 30, 2014) is available for consultation and to mediate a resolution between the student and instructor. Contact information is as follows:

Myra Fernandes

Email: mafernan@uwaterloo.ca

Phone: 519-888-4567 ext 32142

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.

Attendance Policy

You are stongly encouraged to attend all classes. Your participation during class (via responding to questions using the iClicker) will constitute 4% of your final grade.

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. See the UWaterloo Academic Integritity Webpage (https://uwaterloo.ca/academic-integrity/) and the Arts Academic Integrity Office Webpage (http://arts.uwaterloo.ca/current-undergraduates/academic-responsibility) 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. 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 (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70). 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, 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 (http://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.

Research Experience Guidelines for Psychology Undergraduate Courses

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 grades.

Option 1: Participation in Psychology Research, Research Experiences Group (REG)

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 want 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.

For instructions on how to log in to your SONA account and for a list of important dates and deadlines please, as soon as possible go to:

https://uwaterloo.ca/research-experiences-group/participants/sona-information

**** 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: (https://uwaterloo.ca/research-experiences-group/participants)

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

Students are not required to participate in research, and not all students want 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 following is a list of acceptable journals from which you can choose research articles:

- Journal of Cognitive Neuroscience
- Neuroscience
- Neuropsychology
- Neuropsychologia
- Brain Research
- Brain and Cognition
- Neuron
- Nature
- Nature Reviews Neuroscience
- Psychological Science

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

(http://www.quest.uwaterloo.ca/undergraduate/dates.html/). 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.