

**University of Waterloo**  
**Department of Psychology**  
**Psych 261**  
**Physiological Psychology**  
**Spring 2019**  
**M & W, 2:30 p.m. to 3:50 p.m. HH 1101**

**Instructor and T.A. Information**

Instructor: Daniel Smilek, PhD  
Office: PAS 4051  
Office Hours: Tue 3:00 pm to 4:00 pm, and by appointment  
Email: dsmilek@uwaterloo.ca

T.A.	Alyssa Smith	Nick Zabara
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Office	PAS 2257	PAS 3210
Office Hours	M 1:00-2:00 pm	W 2:00-3:00 pm

**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. Topics that will be covered include research methods, neural function, neuroanatomy, psychopharmacology, the senses (e.g., vision), memory, emotion, sleep, attention, consciousness 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. 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 Text**

- Required Text: Kalat, J. W. (2019). Biological Psychology, 13th Edition. Cengage Learning, Inc.
- 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 (if known)	Weighting
Test 1	June 5, 2019	32%
Test 2	July 3, 2019	32%
Test 3	July 29, 2019	25%
Class Participation (iClickers)		7%
Participation in SONA Experiments		4%
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Total		100%

Tests: The course is divided into three sections with an in-class 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. The tests 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 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 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 graded, but you will receive participation points for responding. It is important that you do your 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 classes you responded in over the term as a proportion of the total number of classes in which iClicker questions are presented throughout the course.

**Participation in SONA Experiments:** You will be able to earn 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 occurrence 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	May 6, 8	Introduction/ History	Introduction
2	May 13, 15	Neurons/ Glia/ The Action Potential	Modules 1.1, 1.2
3	May 20*, 22	Victoria Day / The Synapse	Module 2.1, 2.2
4	May 27, 29	Durges & Toxins / Neuroanatomy	Module 3.1
5	June 3, 5	Neuroanatomy / Test 1	Module 3.2
6	June 10, 12	Methods / Neurodevelopment	Modules 3.3, 4.2
7	June 17, 19	Critical Periods/ Plasticity	Module 4.3
8	June 24, 26	Vision	Modules 5.1, 5.2, 5.3
9	July 2*, 3	Audition / Test 2	Module 6.1
10	July 8, 10	Touch, Temperature, Pain / Sleep	Modules 6.2, 8.1, 8.2
11	July 15, 17	Emotion / Mood Disorders	Modules 11.1, 11.2, 14.2
12	July 22, 24	Memory and Learning	Modules 12.1, 12.2 & 12.3
13	July 29	Test 3	

### Missed Tests

If a student misses a test, the student will receive a score of 0% on the test unless the student provides a valid Verification of Illness Form (VIF) or provides the instructor with a valid reason for missing the test well in advance of the test date (at least two days in advance).

## **Academic Integrity**

In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the [Office of Academic Integrity webpage](#) for more information.

## **Discipline**

A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. Check [the Office of Academic Integrity](#) for more information. 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 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](#). For typical penalties check [Guidelines for the Assessment of Penalties](#).

## **Concerns about a Course Policy or Decision**

**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 (Richard Eibach) is available for consultation and to mediate a resolution between the student and instructor: Email: [reibach@uwaterloo.ca](mailto:reibach@uwaterloo.ca); Ph 519-888-4567 ext. 38790

## **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. When in doubt, please be certain to contact Richard Eibach, the Associate Chair for Undergraduate Affairs who will provide further assistance; [reibach@uwaterloo.ca](mailto:reibach@uwaterloo.ca).

## **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](#).

## **Note for Students with Disabilities**

The [AccessAbility Services](#) office, located on the first floor of the Needles Hall extension (NH 1401), 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 AS office at the beginning of each academic term.

## **Accommodation for course requirements for Psychology courses.**

*Policies of the Psychology department pertaining to course requirements are available on the [department website](#).*

## **Mental Health Services**

*Mental Health Services aim is to provide holistic programming and services to help you lead a healthy and balanced life. We strive to provide a secure, supportive environment for students of all orientations and backgrounds.*

*Students suffering from problems with anxiety, depression, problems with sleep, attention, obsessions or compulsions, relationship difficulties, severe winter blues, etc., may make an appointment by phone or in person. Appointments are usually available within two days of initial contact with one of our medical doctors. All contacts are completely confidential.*

Contact Health Services

Health Services Building

Call 519-888-4096 to schedule an appointment

Call 1-866-797-0000 for free 24/7 advice from a health professional

Contact Counselling Services

Needles Hall Addition, NH 2401

Call 519-888-4567 x 32655 to schedule an appointment

counserv@uwaterloo.ca

## **Sona Participation and 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 their final mark in this course through research experience (i.e., course work will make up 96% of the final mark and research experience will make up the other 4% for a maximum grade of 100%). **Be sure to review the guidelines referred to later in this document.**

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 been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee.

### ***How to earn extra marks for your Psychology course(s) this term by participating in studies ...***

- You will earn "credits" which will be converted to "marks" (1 credit = 1%)
- You can schedule your LAB and/or ONLINE studies using the "Sona" website.
- **UP TO 50%** of your credits can be earned through ONLINE studies. The remaining need to be earned through in-lab participation.

### ***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 at the end of the term, the REG Coordinator will provide the course instructor with a credit report of the total credits earned by each student.

### ***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.

[Participating/SONA information: 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 in general is available at: [Sona Information on the REG Participants website](#) or you can check the [Sona FAQ on the REG website homepage](#) for additional information.

### **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.