

**University of Waterloo**  
**Department of Psychology**  
**PSYCH 306 Perception**  
**Spring 2015**

**Monday & Wednesday, 11:30 to 12:50 p.m.; MC 2065**

**Instructor and T.A. Information**

Instructor: Linda Carson

Office: ECH 1108

Office Phone: 519-888-4567 extension 38383

Office Hours: Mondays & Wednesdays, 1:00 to 3:00 p.m.

Email: [lccarson@uwaterloo.ca](mailto:lccarson@uwaterloo.ca)

*East Campus Hall (ECH) is a low obscure building between the Ring Road and Phillip Street, in the shadow of E5 and E6. If you start from the bus stop in front of the Davis Centre, cross the railroad tracks and take the red pedestrian bridge across the big ditch, you can see ECH. The yellow door is closest to my office.*

*Leave a little extra time—there is construction at the railroad tracks and you may unexpectedly need to alter your route.*

T.A.	Melissa Meade	Daniel Todorovic
Email	<a href="mailto:mmeade@uwaterloo.ca">mmeade@uwaterloo.ca</a>	<a href="mailto:d2todorovic@uwaterloo.ca">d2todorovic@uwaterloo.ca</a>

**Course Description**

What we perceive through our senses makes up much of our conscious experience. This course examines how visual and auditory perception arises and includes topics such as how we become aware of colour, form, space, brightness, loudness, and pitch, and how this information guides behaviour. Other senses may be covered.

**Course Goals and Learning Outcomes**

The goal of this course is to understand perception. We will focus first and most thoroughly on visual perception and then, by extension, on other sensory modalities.

The textbook's companion website provides study questions for every chapter. These short-answer questions cover the fundamentals of the course content pretty thoroughly. If you can reliably answer these questions, you know enough to *pass* PSYCH 306.

To *thrive and excel* in the course, students should be able to:

- A. Describe how sensation leads to perception in vision, audition and other modalities
  - Recall and understand how sensations are detected, transmitted and interpreted as percepts, and how these phenomena are studied experimentally
  - Recall and understand the anatomy and functioning of the visual pathway
  - Recall and understand the anatomy and functioning of the auditory system
  - Recall and understand touch, proprioception and haptic perception
  - Recall and understand olfaction and taste
- B. Read and write in the style and depth appropriate to psychological research

- Conduct a literature search in the psychology of perception
  - Read a journal article and describe its hypothesis, method and findings
  - Extend the findings of a study to suggest related research questions of interest and how they might be studied experimentally
  - Conduct a modest experiment in perception and report your findings in a lab report written in APA style
- C. Extend and apply your knowledge of perception
- Extend the properties of sensation and perception from one modality to others
  - Predict the perceptual consequences of illness or injury
  - Propose, from a description of a perceptual anomaly, its anatomical or systematic origin
  - Explain unusual percepts, such as visual illusions, and how they result from the properties of the perceptual system

### Required Texts

- Sensation & Perception, Fourth Edition, by Wolfe, Kluender, Levi, Bartoshuk, Herz, Klatzky, Lederman & Merfeld; looseleaf edition, hardcover or ebook
  - You can probably get by with a used copy of the third edition (2011). I will put a copy of the fourth on reserve in Dana Porter Arts Library in case we discover important differences.
  - There is an electronic edition of Sensation & Perception that is worthy of your consideration. For less than half the price of the hardcover, you can buy a 180-day subscription to the eTextbook. It's weightless but has no resale value.
  - [The companion website](#) to the textbook, Sensation & Perception, is free. It provides extra explanations and activities that will help you understand and remember course content better. The website also provides study questions (and answers) for each chapter.
- PsyCog: Explorations in Perception and Cognition (not compatible with Mac OS X 10.7), by Wyttenbach

Weekly textbook readings will be part of the testable content in the course. The PsyCog CD includes experiments that will also be the basis of a major assignment. Both of these have been used in previous offerings of PSYCH 306 so you should be able to find bargain copies in the used bookstore.

You will also need a reference to APA style. You may use [the APA's own site on its style](#) and the [OWL \(Online Writing Lab\) at Purdue University](#), but if you are fond of books, detail or psychology, you could refer to the book itself, which is available for sale and in several campus libraries, including Dana Porter.

American Psychological Association. (2009). *Publication manual of the American psychological association*. American Psychological Association (APA).

### Course Requirements and Assessment

Assessment	Date of Evaluation (if known)	Weighting
Writing about perception	Wednesday, May 20	10%
Test in class	Wednesday, May 27	10%

Assessment	Date of Evaluation (if known)	Weighting
Conducting an experiment	Wednesday, June 17	15%
Test in class	Monday, July 6	10%
Reading and hypothesizing	Wednesday, July 22	15%
Final Exam, cumulative	To be scheduled by the Registrar's Office during the exam period	40%
Research participation bonus(es)	Scheduled through REG/SONA	Up to 4%
Total		100%

### **Assignment 1: Writing about perception, due Wednesday, May 20**

For this assignment, you will write a two-page paper about a specific prescribed topic in perception, conduct a literature search for related journal articles, and provide a reference list, in APA style, of 5-10 items. Details to follow.

### **Test in class, Wednesday May 27**

This test will cover the course material to date and provide a good model of the final exam. It will include a variety of short and long answer questions based on the textbook and classes. Details to follow.

### **Assignment 2: Conducting an experiment, due Wednesday, June 17**

For this assignment, you will conduct an experiment in human perception (using the PsyCog CD) and write a lab report on your work, in APA style. Details to follow.

### **Test in class, Monday July 6**

This test will cover the course material since the previous test and provide another good model of the final exam. It will include a variety of short and long answer questions based on the textbook and classes. Details to follow.

### **Assignment 3: Reading and hypothesizing, due Wednesday, July 22**

For this assignment, you will choose and read a recent peer-reviewed journal article on perception. You will write a synopsis—paying particular attention to the hypothesis, method and results—and then propose a follow-up study. Details to follow.

### **Research participation bonus(es), scheduled through REG/SONA**

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. Details below.

### **Final exam, date to be announced**

The final exam will be a cumulative test of your mastery of all of the course content and your ability to extend and apply your knowledge of perception. The exam will include a variety of short and long answer questions based on the textbook and classes. Details to follow.

## Course Outline

This course is based on textbook readings, lectures and assignments. All three provide valuable, testable material. The best way to learn the course content is to read the textbook throughout the term, to attend—and engage in—lectures regularly, and to complete assignments on time. *I promise that the lectures will not re-hash the readings, but explain selected topics in more detail, and supplement the textbook with other content.* Course topics will progress in the order described in the table but, because I cannot be certain how long we will spend on each topic, topic timing is approximate and subject to change.

Week	Date	Topic	Readings Due
1	May 4	Introduction to the course	
1	May 6	Introduction to perception	Chapter 1
2	May 11	Vision	Chapter 2
2	May 13		
3	May 20	<i>Assignment 1 due</i>	Chapter 3
3	May 25		
4	<b>May 27</b>	<b>Test, in class</b>	
4	June 1		Chapter 4
5	June 3		
5	June 8		Chapter 5
6	June 10		
6	June 15		Chapter 6
7	June 17	<i>Assignment 2 due</i>	
7	June 22	Attention and search	Chapter 7
8	June 24	Motion perception	Chapter 8
8	June 29		
9	<b>July 6</b>	<b>Test, in class</b>	
9	July 8	Hearing	Chapter 9
10	July 13		
10	July 15		Chapters 10 & 11
11	July 20	Touch, proprioception & haptic perception	Chapter 13
11	July 22	<i>Assignment 3 due</i>	
12	July 27	Olfaction & taste	Chapters 14 & 15
12	July 28	<i>Note that we have class on Tuesday!</i>	

## Late Work

Assignments are due by the start of class on the due date. The late penalty is 10% and no assignments will be accepted after the last day of classes. *That is, if your assignment is late, you can earn, at best, 90% of the project's maximum value.* Where there are legitimate extenuating circumstances—such as an illness or a family emergency—the late penalty might be waived if you contact the instructor promptly and provide good documentation.

## Electronic Device Policy

*“And the truth is, virtually all multitaskers think they are brilliant at multitasking. And one of the big new items here, and one of the big discoveries is, you know what? You’re really lousy at it. And even though I’m at the university and tell my students this, they say: ‘Oh, yeah, yeah. But not me! I can handle it. I can manage all these,’ which is, of course, a normal human impulse.”* Dr. Clifford Nass, Stanford University (quoted in Dretzin & Rushkoff, 2010)

*“Results showed that students who used laptops in class spent considerable time multitasking and that the laptop use posed a significant distraction to both users and fellow students. Most importantly, the level of laptop use was negatively related to several measures of student learning, including self-reported understanding of course material and overall course performance.”* (Fried, 2008)

*“These analyses indicated that participants who did not use any technologies in the lectures outperformed students who used some form of technology. Consistent with the cognitive bottleneck theory of attention (Welford, 1967) and contrary to popular beliefs, attempting to attend to lectures and engage digital technologies for off-task activities can have a detrimental impact on learning.”* (Wood et al., 2012)

We study the science of human behaviour, and the science says that multi-tasking diminishes learning and that your Facebook news feed doesn’t just hurt your performance, it distracts your neighbours. Electronic devices aren’t the problem. Distraction and multi-tasking are the problems. My policy is that, in fairness to your classmates, you shut off all noisemakers in the classroom—ring tones, music, IM alerts, etc.—and that the back row is reserved for people who can’t stay off Facebook for 80 minutes. The rest of us are attending to the class as best we can, and being inobtrusive about our distractions. If your distraction is distracting to me or your classmates, I will ask you to leave.

Dretzin, R. (Director), & Rushkoff, D. (Correspondent). (2010). Digital nation: Life on the virtual frontier [Television series episode]. In R. Dretzin (Producer), *Frontline*. Boston, MA: PBS. Retrieved from <http://www.pbs.org/wgbh/pages/frontline/digitalnation/interviews/nass.html>

Fried, C. B. (2008). In-class laptop use and its effects on student learning. *Computers & Education, 50*(3), 906-914.

Welford, A. T. (1967). Single-channel operation in the brain. *Acta Psychologica, 27*, 5-22.

Wood, E., Zivcakova, L., Gentile, P., Archer, K., De Pasquale, D., & Nosko, A. (2012). Examining the impact of off-task multi-tasking with technology on real-time classroom learning. *Computers & Education, 58*(1), 365-374.

## Attendance Policy

Two tests will be conducted in class. Otherwise, attendance is optional but strongly recommended. Much—but not all—of the course content is covered in the textbook and its companion website. The lecture slides are signposts rather than transcripts but they will be posted after each class. It is possible that I may teach something more and/or better in the lecture than you can learn independently. All of the lecture content is testable material so, if you do not attend, I recommend that you cultivate the friendship of a classmate who does, and who takes thorough notes.

## **Official Student Email address**

Students are responsible for all e-mail that is sent to the official uWaterloo email address. Check email regularly for important and time sensitive messages. See "[Official Student E-mail Address](#)" for further details e.g., procedures and warnings regarding forwarding e-mail to other accounts.

## **Accommodations for Students with Disabilities**

The AccessAbility 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 [AccessAbility 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, Richard Eibach, is available for consultation and to mediate a resolution between the student and instructor. Contact information is as follows:

Richard Eibach  
Email: [reibach@uwaterloo.ca](mailto:reibach@uwaterloo.ca)  
Ph 519-888-4567 ext 38790

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 notes on avoidance of academic offenses. The Faculty of Arts provides more detailed student support at the [Faculty of Arts website on ethical behaviour](#).

**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. Further details are available from the [Academic Integrity Office website](#).

**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 - Student Discipline](#).

**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](#).

**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](#).

## **Research Experiences Group (REG) 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 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 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 firsthand 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 the [SONA information website](#). More information about the REG program is available at the [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 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. *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.
- Not duplicate any of the readings already used in class or for assignments.

Keep a copy of your review in the unlikely event we misplace the original.