

PSYC*2390, Course Outline: Winter 2025

General Information

Due to the ongoing COVID-19 pandemic some courses are being offered virtually and some face to face. This course is offered using the Face-to-Face format. The course has set day, time, and location of class.

Course Title: Sensation and Perception

Course Description: This course introduces students to the sensory systems including how they work, what can go wrong with them, and how this may impact performance. Approaches ranging from psychophysiology and cognitive psychology to physiology and anatomy will be used. In considering the psychology of sensation and perception, some of the anatomical and physiological aspects of selected senses will be covered in detail and the roles of experience, organization of inputs, and theories of perception are discussed. The focus in this one-semester course will primarily be on vision and hearing, the two senses that we know most about. Students will also learn practical information useful in day-to-day life such as recognizing symptoms of selected perceptual disorders or understand how the principles of perception can be used by artists, salespeople, and human factors engineers.

Credit Weight: 0.5

Academic Department (or campus): University of Guelph Main Campus

Semester Offering: Winter 2025

Class Schedule and Location: Tuesday and Thursday 1:00 – 2:20, RICH 2520

Instructor Information

Instructor Name: Michelle Dollois, Ph.D.

Instructor Email: mdollois@uoguelph.ca

Office location and office hours: Most weeks will be Thursdays 2:30-4:30 PM in MCKN 4022 or by appointment. Weekly office hours will be kept updated in CourseLink announcements.

When sending an email to the course instructor please make sure to type the course code (i.e., PSYC 2390) into the Subject heading of the email and use your University of Guelph issued email address. Email messages not adhering to these conditions are likely to be missed and may not receive a response.

GTA Information

GTA Name: Jessica Kespe, Jessica Karlovcec

GTA Email: jkespe@uoguelph.ca, jkarlovce@uoguelph.ca

GTA office location and office hours: TAs do not have office hours for this course.

Course Content

Specific Learning Outcomes:

Critical and Creative Thinking:

1. Depth and Breadth of Knowledge
 - Describe core concepts in sensation and perception
 - Understand and apply key concepts in sensation and perception
2. Inquiry and Analysis
 - Ask appropriate questions related to sensation and perception and find relevant evidence
3. Problem Solving
 - Use information to find ways from sensation and perception to solve practical or creative problems

Literacy:

4. Methodological literacy: the ability to understand, evaluate, and apply appropriate methodologies for rigorous psychological science
 - Recognize and describe basic research methodologies in perception and their relative strengths and limitations
5. Quantitative literacy: the ability interpret numerical data (including formulas)
6. Visual literacy: the ability to effectively interpret, evaluate, use, and create images and graphs

Communication:

7. Reading Comprehension (e.g., reading the text materials)
8. Written Communication
 - explain complex abstract processes in simple, clear, and jargon-free language
 - presenting ideas in a logical order
 - using concrete examples, diagrams, graphs when necessary (see visual literacy).
9. Integrative Communication
 - relate concepts in sensation and perception to the other things you know (e.g. personal experiences)

Personal and ethical behaviour:

10. Personal organization/ time management
 - recognize the importance of planning for completion of tasks
 - effectively manage intense time pressures (e.g. prioritize and complete important or urgent tasks, start tasks early)
 - demonstrate personal accountability and responsibility

For each of the following objectives of this course, the relevant learning outcome is listed afterwards. On successful completion of this course, students will be able to do the following:

- A. Describe the various methodologies used to ask questions about perception (neuropsychological, psychophysical, cognitive; Learning outcomes: 1, 2, 7-9)
- B. Measure perceptual sensitivity and discrimination using the classic techniques of psychophysics and signal detection and present the data in the form of tables or graphs.

Interpret the results of graphs and devise tests to measure these abilities in practical situations. (Learning outcomes: 1, 2, 4-9)

- C. Interpret formulas, graphs, and tables that present information about perceptual abilities. Interpret circuit-diagrams that display how neurons code information in the brain. (Learning outcomes: 1, 2, 4-7)
- D. Describe the psychophysical laws of perception in their own words and explain what they mean in terms of day-to-day performance in simple jargon-free language, using concrete examples of their own creation. Differentiate between perceptual sensitivity and decision processes (response bias) and indicate how each is represented in signal detection theory, using examples from their own experience (Learning outcome: 1, 3, 4-5, 7-9).
- E. Describe the processes involved in sensory processes and perception, starting from those involved in changing energy from one form to another (transduction) to interpretation of the information so that it can be used in object recognition and perceptual-motor coordination. Indicate the structures in the body and the brain that are involved in the process and describe what each structure does. Explain the basis of individual differences in perception (Learning outcomes: 1, 7-9)
- F. Identify the weak points in the system, that is, places where the senses produce inaccurate information (illusions) that may have impacts on day-to-day performance. Identify instances where this may have an effect on performance or others around you (Learning outcomes: 1, 7-9)
- G. Recognize the symptoms of selected perceptual disorders and indicate the effect the disorder has on performance in day-to-day tasks. Identify the disorder, the affected structure, and indicate what can be done to prevent or alleviate the condition. Recognize early signs of perceptual problems in yourself and others. (Learning outcomes: 1, 7-9).
- H. Indicate the basis of age-related changes in perception and what this means for performance in daily tasks. Recognize the effects of these age-related changes and their impact on how they perceive the world. (Learning outcomes: 1, 7-9).
- I. Apply the principles of perception to solve practical or creative problems. For example, use the pictorial depth cues to give the illusion of depth in a picture, using light mixing to create colours that cannot be mixed in a pallet or designing a toy for a newborn infant so that the infant will be able to best see it. (Learning outcomes: 1, 3, 7-9).
- J. Learn to prioritize so that you can make the best use of your limited time. Taking responsibility of your own work schedule using the study worksheet and optional quizzes to help ensure the best possible grade in the course. Students will learn strategies to organize and plan their work across the term in conjunction with other courses and responsibilities. Specifically they will learn time management skills to ensure that quizzes and worksheets are completed in a timely manner so that they can be beneficial for the corresponding exam (Learning outcome: 10).

These specific outcomes are evaluated on exams, in Top-Hat questions that are administered during class, and with online quizzes. The skills needed to achieve these outcomes are practiced

and developed in the worksheets, which require problem solving as well as integrating information. Although the worksheets are not evaluated for marks, they are important in helping them prepare for the exams (that have similar questions).

Lecture Content:

Note: The table below lists the content of the lectures and the associated readings from the text. Every effort will be made to adhere to this schedule as closely as possible. Exam and quiz dates will not change, however some topics may take more or less time to cover in a given term. Announcements on CourseLink will contain the most up to date information with respect to readings and material required for a given exam should we need to deviate from the content schedule below.

Date	Content	Goldstein text readings	Assessments and coursework
Jan 7, 9	Introduction to Perception	Chapter 1, Appendices A-C	Jan 9: Practice Top Hat Question
Jan 14, 16	Basic Principles of Sensory Physiology The Eye and the Retina	Chapter 2 Chapter 3	Top Hat Question 1-2 (one per class) Jan 17: Optional Quiz 1 opens (due Jan 21).
Jan 21, 23	The Eye and the Retina	Chapter 3	Top Hat Questions 3-4 (one per class)
Jan 28	Midterm	Chapters 1-3	Jan 28: Exam 1
Jan 30	The Visual Cortex and Beyond	Chapter 4	Top Hat Question 5
Feb 4, 6	The Visual Cortex and Beyond Perceiving Objects and Scenes	Chapter 4 Chapter 5	Top Hat Questions 6-7 (one per class) Feb 7: Optional Quiz 2 opens (due Feb 11)
Feb 11, 13	Perceiving Objects and Scenes	Chapter 5	Top Hat Questions 8-9 (one per class)
Feb 18, 20	Winter Break – no classes this week.		
Feb 25	Midterm	Chapters 4-5	Feb 25: Exam 2
Feb 27	Perceiving Motion	Chapter 8	Top Hat Question 10
Mar 4, 6	Perceiving Colour	Chapter 9	Top Hat Questions 11-12 (one per class)
Mar 11, 13	Perceiving Depth and Size	Chapter 10	Top Hat Questions 13-14 (one per class)
Mar 18	Midterm	Chapters 8-10	Mar 18: Exam 3

Mar 20	Hearing	Chapter 11	Top Hat Question 15
Mar 25, 27	Hearing	Chapter 11	Top Hat Questions 16-17 (one per class) Mar 28: Optional Quiz 3 opens (due Apr 1)
Apr 1, 3	Chemical Senses	Chapter 16	Top Hat Questions 18-19 (one per class)

Labs: None.

Seminars: None.

Course Assignments and Tests:

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
In-class Top Hat Questions	One question per regular class starting on Jan 14. See lecture content schedule for specific dates.	15%. Based on best 12 of 19 Top Hat marks. Each Top Hat Question is weighted 40% participation, 60% accuracy	1-6
Optional Quizzes (CourseLink)	Quiz 1: due Jan 21 Quiz 2: due Feb 11 Quiz 3: due Apr 1	Each worth bonus 2% (2 x 3 = 6% bonus total)	1-7, 10
Midterms (in class)	Exam 1: Jan 28 Exam 2: Feb 25 Exam 3: Mar 18	50% based on average of best 2 of 3 tests	1-8, 10
Cumulative Final Exam	Monday, April 14, 2:30 pm - 4:30 pm. Location will be announced closer to exam date.	35%	1-8, 10

In-class tests: Will be a combination of multiple choice and short answers questions, and will cover all lecture material and all assigned readings. Midterms are non-cumulative, and only cover material not evaluated by previous tests. Note that the final exam is, however, cumulative.

Final examination date and time: Monday, April 14th, 2025, 2:30 PM - 4:30 PM.

Final exam weighting: The final exam weighting 35%. This exam will be *cumulative*. Final exam regulations can be found here: [Examination Regulations](#).

Course Resources

Required Texts:

Goldstein, & Cacciamani (2022). Sensation and Perception. Custom Edition (4th edition).

There are three versions of this text from which you can choose:

1. Physical custom edition (ISBN 978-1-774-74187-0), available through campus Bookstore, limited stock
2. Digital custom edition (ISBN 978-1-774-74972-2), available through campus Bookstore, unlimited stock
3. Physical full edition (ISBN 978-0-357-44647-8), USED copies available through campus Bookstore, limited stock. One copy on reserve at the library.

A custom version of the text has been created especially for this class to reduce costs for students. The custom version of the text contains only the chapters that we will cover in our course (the full text was designed for a full-year course).

Recommended Texts: None.

Lab Manual: None.

Other Resources:

1. *CourseLink website.* The CourseLink website will be used for course announcements, lecture outlines, diagrams, worksheets, online quizzes, and other material associated with the course.
2. *Top Hat classroom response system.* An in-class multiple choice question will occur in almost every class using the Top Hat software. Students will have 5 minutes to answer the question using their smartphone, tablet, or laptop. Final Top Hat grade will be calculated as an average of the best 12 of 19 questions (the lowest 7 grades will be automatically dropped). The aim of these questions is to encourage students to engage with the course materials, assess student understanding throughout the semester, and promote retention of course material.

Additional Costs:

Students are required to register for Top Hat because in-class Top Hat exercises account for 15% of your grade. Students can use the following link to access our course Top Hat [PSYC 2390](#). If required, the 6-digit join code for our course is 493411. An email invitation will also be sent to your school email account. Please be sure to register for Top Hat using your University of Guelph email address and the First and Last name registered with your student account. This is necessary to ensure that the correct Top Hat grades are linked to the corresponding student.

Top Hat will require a paid subscription. For a full breakdown of all subscription options available please visit [Top Hat pricing](#). Please note that the first official Top Hat is on January 14 during class. If a student misses a Top Hat question due to late registration, it will be considered as one of the 7 that are dropped.

Course Policies

Grading Policies

1. Top Hat extensions. There are no extensions on in-class exercises (Top Hat questions). They must be done during class on the days that they are scheduled. If a student misses a Top Hat question for any reason, there is no need to contact the instructor or teaching assistants. There are 19 total Top Hat questions, and the best 12 grades will be used when calculating the Top Hat final grade. The lowest 7 grades are automatically dropped in this calculation. After the first 7, each additional missed Top Hat is worth 1.25% of the final grade in the course.
2. The online quizzes are optional. If you miss the deadline for an online quiz for any reason (e.g., illness, personal issues, religious holidays, technical problems, etc.), there is no need to contact the course instructor or teaching assistants. There are no extensions on optional quizzes because the answers to the quiz are circulated immediately after the quiz so that the material can be applied to the upcoming exam.
3. In-class exam format. Midterms will be part multiple-choice and part short essay (75% and 25% of the total grade respectively). When studying for exams, be aware that you will be responsible for both the information presented in lecture and in the text. Only the best 2 of 3 midterms will be counted towards the final grade. There are no make-up midterms. If you miss a midterm for any reason (e.g., illness, personal issues, religious holidays, technical problems, etc.), there is no need to contact the course instructor or teaching assistants. The “best 2 of 3” policy is in place to protect students from being penalized for illness (or any other unforeseen circumstance).
4. Exam regrade requests. If a student feels that an exam question has been mis-marked, they can contact the course instructor to request a regrade. In this case the instructor will regrade the exam, and whatever mark is received on the regrade is the mark for that exam (note that the mark could go up, down, or remain the same). [Undergraduate Grading Procedures](#)

Course Policy on Group Work:

Group work is not permitted for graded assignments (Top Hat questions, quizzes, and exams). Each student is expected to complete their own work. Failure to do so is Academic Misconduct and will be dealt with as specified below.

Course Policy regarding use of electronic devices and recording of lectures:

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted, they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the expressed written consent of the instructor. This includes electronic recordings or photographs of the instructor.

Similarly, any material created by the course instructor is intended for those enrolled in this course solely. The same applies for all materials posted on CourseLink. Under no circumstances are students permitted to disseminate course materials to external parties or platforms.

University Policies

Disclaimer:

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email. This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for academic appeals.

Academic Consideration:

[Academic Consideration, Appeals and Petitions](#)

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

[Academic Misconduct Policy](#)

Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (i.e., final exam).

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact [Student Accessibility Services](#) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 54335 or email accessibility@uoguelph.ca or the [Student Accessibility Services Website](#)

Student Feedback Questionnaire

These questionnaires (formerly course evaluations) will be available to students during the last 2 weeks of the semester: March 25th – April 8th. Students will receive an email directly from the Student Feedback Administration system which will include a direct link to the questionnaire for this course. During this time, when a student goes to login to Courselink, a reminder will pop-up when a task is available to complete.

[Student Feedback Questionnaire](#)

Drop date

The last date to drop one-semester courses, without academic penalty, is Monday April 4, 2024. For regulations and procedures for Dropping Courses, see the [Schedule of Dates in the Academic Calendar](#).

Instructors must provide [meaningful and constructive feedback, at minimum 20% of the final course grade, prior to the 40th class day](#). For courses which are of shorter duration, 20% of the final grade must be provided two-thirds of the way through the course.

[Current Undergraduate Calendar](#)