PSYC*2390, Course Outline: Winter 2024

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 2024

Class Schedule and Location: Tuesday and Thursday 1:00 – 2:20, ROZH 103

Instructor Information

Instructor Name: Mallory Terry, M.Sc.
Instructor Email: terry@uoguelph.ca
Office location and office hours: TBA

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: Rachel Eng, Niyatee Narkar, Anna Kazatchkova
GTA Email: engr@uoguelph.ca, nnarkar@uoguelph.ca, akazatch@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. Annoucements 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 9, 11	Basic Principles of Sensory Physiology Introduction to Perception	Chapter 2 and then Chapter 1 (especially Measuring Perception)	Worksheet 1 assigned (study aid for Exam 1) Jan 11: Practice Top Hat Question
Jan 16, 18	Measuring Perception/ Psychophysics The Eye and the Retina	Chapter 1 starting with section 1.5. Appendices A-C Beginning of Chapter 3 (3.1)	Top Hat Questions 1-2 (one per class) Jan 19: Optional Quiz 1 opens (due Jan 22).
Jan 23, 25	The Eye and the Retina	Chapter 3 to page 55 (end before Ganglion Receptive Fields)	No Top Hat this week. Jan 25: Exam 1
Jan 30, Feb 1	End of Chapter 3 (starting at Ganglion Receptive Fields)	Chapter 3 starting on page 55	Worksheet 2 assigned (study aid for Exam 2) Top Hat Questions 3-4
Feb 6, 8	The visual cortex and beyond	Chapter 4	Top Hat Questions 5-6 Feb 9: Optional Quiz 2 opens (due Feb 13)
Feb 13, 15	Perceiving Colour	Chapter 9	Top Hat Questions 7-8
Feb 20, 22	Winter Break – no classes this week.		
Feb 27, 29	Perceiving Depth and Size (up to the beginning of the section	Chapter 10 (up to page 243)	Top Hat Question 9 (Feb 27)

	on Binocular depth perception).		Feb 29: Exam 2
Mar 5, 7	Perceiving Depth and Size (Remainder of Chapter 10) Perceiving Objects and Scenes	Chapter 10 Chapter 5	Worksheet 3 assigned (study aid for Exam 3) Top Hat Questions 10-11
Mar 12, 14	Perceiving Objects and Scenes	Chapter 5	Top Hat Questions 12-13
Mar 19, 21	Perceiving Motion Hearing	Chapter 8 Chapter 11	Top Hat Questions 14-15 Mar 22: Optional Quiz 3 assigned
Mar 26, 28	Hearing Sound source localization	Chapter 11	Top Hat Questions 16-17
Apr 2, 4	Cutaneous Senses or Chemical Senses (based on class vote)	Chapter 15 or 16 (based on class vote)	April 2: Top Hat Question 18

Labs: None.

Seminars: None.

Course Assignments and Tests:

Assignment or Test	**Due Date**	**Contribution to Final Mark (%)**	**Learning Outcomes Assessed**
Course outline quiz (on Courselink)	Assigned Jan 9. Due Jan 16 at 11:59pm.	Bonus 2%. Best score of 3 tries is used.	10
In-class Top Hat Questions	One question per class starting on Jan 16 (a few classes do not have a question). See lecture content schedule for specific dates.	10%. Based on best 12 of 18 Top Hat marks.	1-6
Optional Quiz 1 (on Courselink)	Assigned Jan 19 Due Jan 22 at 11:59pm.	0 or 5%. Quiz 1 is weighted 5% if grade on Quiz 1 is higher than grade on Exam 1.	1-7, 10

Assignment or Test	**Due Date**	**Contribution to Final Mark (%)**	**Learning Outcomes Assessed**
		Quiz 1 is weighted 0% if grade on Quiz 1 is lower than grade on Exam 1.	
Worksheet 1	Assigned Jan 11. Study aid for Exam 1.	0 (Not handed in).	1-10
Exam 1	Jan 25 during class	25% or 30% (see below). Exam 1 is weighted 25% if grade on Quiz 1 is higher than grade on Exam 1. Exam 1 is weighted 30% if grade on Exam 1 is higher than grade on Quiz 1.	1-8, 10
Optional Quiz 2 (on Courselink)	Assigned Feb 9 Due Feb 13 at 11:59pm.	0 or 5%. Quiz 2 is weighted 5% if grade on Quiz 2 is higher than grade on Exam 2. Quiz 2 is weighted 0% if grade on Quiz 2 is lower than grade on Exam 2.	1-7, 10
Worksheet 2	Assigned Feb 1. Study aid for Exam 2.	0 (Not handed in)	1-10
Exam 2	March 2 during class	25% or 30% (see below). Exam 2 is weighted 25% if grade on Quiz 2 is higher than grade on Exam 2. Exam 2 is weighted 30% if grade on Exam 2 is higher than grade on Quiz 2.	1-8, 10
Optional Quiz 3 (on Courselink)	Assigned Mar 22. Due March 28 at 11:59pm.	0 or 5%.	1-7, 10

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
		Quiz 3 is weighted 5% if grade on Quiz 3 is higher than grade on Exam 3 (final exam). Quiz 3 is weighted 0% if grade on Quiz 3 is lower than grade on Exam 3 (final exam).	
Worksheet 3	Assigned March 7. Study aid for Exam 3.	0 (Not handed in)	1-10
Exam 3 (Final exam)	Friday, April 12, 11:30 am - 1:30 pm. Location will be announced closer to exam date (see WebAdvisor).	25% or 30% (see below). Exam 3 is weighted 25% if grade on Quiz 3 is higher than grade on Exam 3. Exam 3 is weighted 30% if grade on Exam 3 is higher than grade on Quiz 3.	1-8, 10

Final examination date and time: Friday, April 12th, 2024, 11:30 AM - 1:30 PM.

Final exam weighting: The final exam weighting is either 25% or 30% depending on the Quiz 3 grade. This is designed to benefit the student. If a student submits Optional Quiz 3 and their grade is higher on Quiz 3 than the Final Exam (Exam 3), the Final Exam will be weighted 25% and Quiz 3 will be 5%. Alternatively, if a student does not submit Optional Quiz 3 or their grade on the Final Exam is higher than their grade on Optional Quiz 3, the Final Exam will be weighted 30%. This same structure is used for weighting of Exam 1 and 2 and Optional Quiz 1 and 2 (please see course assignment and tests section for further details). Final exam regulations can be found here: Examination Regulations.

Course Resources

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

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). The ISBN for the printed version of the

custom text is 9781774741870. Soft cover and eBook versions of the custom text are available for purchase through the Bookstore.

The full version of the text that this custom version was created from is Goldstein, E.B. & Cacciamani, L. (2022) Sensation and Perception, 11th edition (ISBN: 978-0-357-44647-8). This text would also be sufficient for the course but note that the page numbers and chapters may not line up with those listed on the lecture slides as they are taken from the custom text pagination.

Note that earlier editions of Goldstein text (before the 11th edition) will not do for this course because there have been changes in the material covered in the text.

Recommended Texts: None.

Lab Manual: None.

Other Resources:

1. Courselink website. The Courselink website will be used for course annoucements, 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 2 minutes to answer the question using their smartphone, tablet or laptop. The Top Hat grade will be calculated as an average of the best 12 of 18 questions (the lowest 6 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 10% 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 484947. 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 16 during class. If a student misses a Top Hat question due to late registration, it will be considered as one of the 6 that are dropped.

Course Policies

Grading Policies

1. Bonus course outline quiz. This quiz is designed to ensure that students understand the policies and procedures in PSYC 2390. Students have up to 3 attempts at this quiz and the score for the quiz will be based on their best score across these three attempts. There are no

extensions on the bonus quiz as students do not lose marks by not taking it – they can only benefit from taking the quiz.

2. 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 18 total Top Hat questions, and the best 12 grades will be used when calculating the Top Hat final grade. The lowest 6 grades are automatically dropped in this calculation. After the first 6, each additional missed Top Hat is worth 0.83% of the final grade in the course.

3. 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.) the weighting will automatically go to the associated exam instead. 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.

4. Exam format. Exams 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. The worksheets associated with each exam give you examples of the type of question you might encounter on the exam.

5. Each student must take all three exams. In the event a student is unable to attend an exam due to extenuating circumstances, they can contact the professor to request a makeup exam. The makeup exam will be scheduled within 13 days of the original exam. It is the sole responsibility of the student to inform the instructor if they miss an exam and would like to take the makeup exam.

6. 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 (e.g., final exam or major assignment).

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 8, 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