Perceptual Processes Syllabus
Department of Psychology and Neuroscience
NESC / PSYO 2150 Fall 2023

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Course Instructors

Name	Email	Office Hours
Dr. Nathan Crowder	nathan.crowder@dal.ca	online, by appointment

Course Description

[From Calendar] Perception deals with the way in which our senses provide us with information about our environment. This course focuses on the process by which sensory experiences are coded, how they are interpreted by the nervous system, and how experience modifies perception.

Course Prerequisites

[From Calendar] PSYO 1011.03 (or PSYO 1021.03 or PSYO 1031.03) and PSYO 1012.03 (or PSYO 1022.03 or PSYO 1032.03); OR SCIE 1506.09/1507.09 (or SCIE1505X/Y.18) OR BIOL 1010.03 (or BIOL 1020.03) and BIOL 1011.03 (or BIOL 1021.03). All prerequisite courses must have a grade of B- or better.

Course Exclusions

[From Calendar] PSYO 3005.03/NESC 3005.03

Learning Outcomes

- Describe how sensory information is transcribed into neural activity, and compare and contrast the transduction process across several senses.

- Distinguish the types of information available in the sensory input, and how the brain can work on this information.
- Discriminate between the physical properties of a stimulus and the perception of that stimulus.
- Identify when sensory illusions provide insights into the perceptual process, and when available, provide a neural explanation for those illusions.

Student Resources

Office hours: Office hours will occur online via Microsoft Teams. For now, office hours are by appointment, but regular hours may be announced on Brightspace.

Course Structure

Course Delivery

IN-PERSON*:* lectures take place in the classroom, and live sessions will not be recorded. Midterms and the final will be paper exams delivered in-person. Quizzes will be asynchronous online.

Lectures

Mon. / Tue. / Thur.   15:35 - 16:25   CHEMISTRY 125

Notes on online course components:

- Online Content will be delivered via Brightspace.
- Minimum technology: this course requires internet access, sufficient hardware to navigate Brightspace (e.g. view lecture PDFs and Panopto videos, completing online quizzes, etc.), and to engage in Microsoft Teams consultations during 'office hours'.
- If a student can provide evidence of power/technology malfunction during an online quiz, the weight of that quiz will be transferred to the final exam.
- All exams, due dates, meetings are scheduled on Halifax Time (GMT-3).
- If students connect to online resources from outside Canada, they are responsible for ensuring awareness and compliance with any applicable laws in the country from which they are connecting.

Course Materials

Textbook: E.B. Goldstein and L. Cacciamani, Sensation and Perception, 11th edition. Cengage, 2021.

- *Paper* and *Digital* versions of this textbook are available from the Dal Bookstore.
- The 11th edition is bundled with the *MindTap* digital resource, which is suggested but not required.
- Previous editions (7-10th) of the Goldstein text cover similar but not identical material, so they are also acceptable.

Brightspace site: This site will be used for making announcements regarding class, posting slides and recorded lectures, delivering quizzes, posting grades, etc. You are expected to **check Brightspace regularly** for new content, announcements, and potential schedule changes. *If you have difficulties accessing or using Brightspace, please contact the folks at UCIS/WebCT for help.*

Lecture Notes: Lecture notes are **the students' responsibility**. PDF files of PowerPoint slides covering important points of each chapter will be posted on the Brightspace site. However, these slides are **not complete** and will need to be supplemented by notetaking.

Assessment

Component	Weight (% of final grade)	Date	Duration / Format
Online Quiz 1 (Ch. 1+2)	3%	Sept. 14, 2023	~20 min – online
Online Quiz 2 (Ch. 3+4)	3%	Sept. 28, 2023	~20 min – online
Midterm 1 (Ch. 1, 2, 3, 4, 5)	25%	Oct. 5, 2023	50 min – In-person
Online Quiz 3 (Ch. 6+9)	3%	Oct. 23, 2023	~20 min – online
Online Quiz 4 (Ch. 8+10)	3%	Nov. 2, 2023	~20 min – online
Midterm 2 (Ch. 6, 8, 9, 10)	25%	Nov. 6, 2023	50 min – In-person
Online Quiz 5 (Ch. 11+12)	3%	Nov. 28, 2023	~20 min – online
Final Exam (cumulative)	35%	*Scheduled by Registrar**	120 min – In-person

Assessment notes:

- Each ONLINE QUIZ is asynchronous and will be available to start for a period of 46-70 hours before the scheduled meeting time (Halifax Time; GMT-3) on the date listed on the table above (i.e. you must complete the quizzes *before* the in-person classes).

- o Quizzes will consist of approximately 5-10 questions in a variety of formats (multiple choice, multi-response, fill-in-the-blank).
  - o Once the exam is initiated, students will have ~20 minutes to complete all the questions. (~90-120 s per point on the exam).
- In-person MIDTERMS will take place in the classroom at the regularly scheduled meeting time and will be exclusively multiple choice.
- * The final will be *scheduled by the Registrar* during the exam period. Do not plan to leave Halifax before the end of the exam period; travel is not a valid circumstance to reschedule the final exam.

Conversion of numerical grades to final letter grades follows the Dalhousie Grade Scale:

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (0-49)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies

1. Missed Academic Requirements

Missing an exam/quiz is unacceptable for any reason other than contagious illness or emergency. **If you are unable to write an exam or quiz**, you must inform Dr. Crowder by email, and submit a STUDENT DECLARATION OF ABSENCE (SDA) using Brightspace only (do not email SDAs or drop SDAs off in person).

- The Declaration of Absence form may only be used a maximum of **two times** throughout the term and may **only cover three consecutive days of absence**.
- If you miss a quiz/exam but do not submit proper documentation (signed Declaration of Absence) you will receive a mark of zero for that component.

IMPORTANT: In the event of a valid missed component **(see above), the weight of that item will be transferred to the final exam.**

2. Testing Protocol

General - all head coverings must be removed or adjusted so invigilators have an unobstructed view of student's gaze direction. Students may not use their own paper during an exam, nor are they permitted to take any paper with them that they were supplied during the quiz/exam. **Quizzes and exams are "closed-book", which means no information other than the questions themselves is to be accessible during the quiz/exam. You must complete all quizzes and exams alone with no consultation/collaboration with other people.**

Computer-based quizzes - students are expected to complete quizzes online. Only one online device should be available for each student, and only the Brightspace page should be accessed during quizzes (no google searches, messaging apps, etc.).

On paper exams – No electronic devices may be accessed or visible during paper exams. Phones must be turned off and stored *before* entering the exam room. Come prepared to examinations - bring pencils/pens, erasers, etc.

3. Health and Safety Statement

All students are required to comply with health and safety requirements on campus, and should be considerate of others' health concerns. Non-compliance may be reported under the Code of Student Conduct.

4. Online Transition Plan

There is a small chance that the university may require online instruction for some/all classes due to public health related restrictions during the term. For the duration of online instruction, all assessment components will be replaced with equally weighted fortnightly online tests. The weight of a valid missed test will be equally distributed among the other tests.

5. Distributing Course Materials

Students will have access to lecture slides and (possibly) recorded lectures throughout this course. However, under no circumstances is this material to be shared, posted online, or distributed in any other way. Personal copies of recordings must be destroyed at the end of term. Furthermore, students do not have permission to revise, modify, share, post on-line, or redistribute in any manner - electronic or otherwise - any of the lecture materials.

6. E-mail Etiquette

Students often don't appreciate how many emails their professors receive in a single day, most of which require a response. This year all consultations outside of class will be scheduled by email and take place via Microsoft Teams. I will endeavor to provide a helpful response to your email within a maximum of three *working days* of receipt. You can facilitate this by making sure that you:

- Read the syllabus and Brightspace page to determine whether the information you require is already available
- Enter the course number in the subject line: 2150
- Include your FULL name and Dal student ID
- Write in full (grammatically correct) sentences, and proof-read your email message to be sure that it is clear and provides all pertinent information
- Do not write to request an exception to the syllabus
  - o All students are subject to all the rules as outlined in this course syllabus and no exceptions will be made to any class policies under any circumstances

7. Course completion requirement
Academic Calendar regulation 16.1 states: "In order to complete a course satisfactorily, a student must fulfill all the requirements as set down in the course outline [Syllabus]."

Course Content

Approximate Date	Topic	Goldstein Chapter
Sept. 5	Course Introduction	
Sept. 7	Intro to Perception	1
Sept. 11	Physiology of Perception	2
Sept. 14	Retinal processing, LGN	3
Sept. 21	Visual Maps and Streams	4
Oct. 2	*Truth and Reconciliation – no class*	
Oct. 3	Object Perception	5
Oct. 5	**Midterm #1**	
Oct. 9	*Thanksgiving – no class*	
Oct. 12	Attention	6
Oct. 17	Color Perception	9
Oct. 24	Depth and Size Perception	10
Oct. 31	Motion Perception	8
Nov. 6	**Midterm #2**	
Nov. 7	Cochlea and Pitch	11
Nov. 13-17	*Fall Study Week – no class*	
Nov. 21	Auditory Scenes	12
Nov. 28	Cutaneous Senses	15
Dec. 4	Chemical Senses	16

Dec. 6	Pre-Final Exam Prep.	

University Policies and Statements

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit or e-mail the Indigenous Student Centre at 1321 Edward St or elders@dal.ca. Additional information regarding the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.html

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." Additional internationalization information can be found at: https://www.dal.ca/about-dal/internationalization.html

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity. Additional academic integrity information can be found at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (https://www.dal.ca/about-dal/agricultural-campus/student-success-centre.html)

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: http://www.dal.ca/cultureofrespect.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner - perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution. The full Code of Student Conduct can be found at:
https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at:
https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Originality Checking Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Originality Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. Additional information regarding Originality Checking Software can be found at:
https://www.dal.ca/dept/university_secretariat/policies/academic/student-submission-of-assignments-and-use-of-originality-checking-software-policy-.html

Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.

Faculty of Science

Student Resources and Support

University Policies and Programs

Important Dates in the Academic Year (including add/drop dates):
http://www.dal.ca/academics/important_dates.html

Classroom Recording Protocol:
https://www.dal.ca/dept/university_secretariat/policies/academic/classroom-recording-protocol.html

Dalhousie Grading Practices Policies:
https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Grade Appeal Process: https://www.dal.ca/campus_life/academic-support/grades-and-student-records/appealing-a-grade.html

Sexualized Violence Policy:
https://www.dal.ca/dept/university_secretariat/policies/health-and-safety/sexualized-violence-policy.html

Scent-Free Program: https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html

Learning and Support Resources

General Academic Support – Advising (Halifax):
https://www.dal.ca/campus_life/academic-support/advising.html

General Academic Support – Advising (Truro): https://www.dal.ca/about-dal/agricultural-campus/ssc/academic-support/advising.html

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness.html

On Track (helps you transition into university, and supports you through your first year at Dalhousie and beyond): https://www.dal.ca/campus_life/academic-support/On-track.html

Indigenous Student Centre:
https://www.dal.ca/campus_life/communities/indigenous.html

Indigenous Connection: https://www.dal.ca/about-dal/indigenous-connection.html

Elders-in-Residence (The Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit the office in the Indigenous Student Centre or contact the program at elders@dal.ca or 902-494-6803: https://cdn.dal.ca/content/dam/dalhousie/pdf/academics/UG/indigenous-studies/Elder-Protocol-July2018.pdf

Black Student Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre.html

South House Sexual and Gender Resource Centre: https://southhousehalifax.ca/about/

LGBTQ2SIA+ Collaborative: https://www.dal.ca/dept/vpei/edia/education/community-specific-spaces/LGBTQ2SIA-collaborative.html

Dalhousie Libraries: http://libraries.dal.ca/

Copyright Office: https://libraries.dal.ca/services/copyright-office.html

Dalhousie Student Advocacy Services: https://www.dsu.ca/dsas?rq=student%20advocacy

Dalhousie Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Human Rights and Equity Services: https://www.dal.ca/dept/hres.html

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Study Skills/Tutoring: http://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Faculty of Science Advising Support: https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html

Safety

Biosafety: http://www.dal.ca/dept/safety/programs-services/biosafety.html

Chemical Safety: https://www.dal.ca/dept/safety/programs-services/chemical-safety.html

Radiation Safety: http://www.dal.ca/dept/safety/programs-services/radiation-safety.html

Laser Safety: https://www.dal.ca/dept/safety/programs-services/radiation-safety/laser-safety.html