

Sensory Processes (2E03)

Location: TSH-B/128; Mon and Wed 11:30 am, Fri 1:30 pm.

Course Outline

Course Instructor: Dr. Ullal, G.

Contact: Department of Psychology, Neuroscience and Behaviour.

Tel. 21331; email: ullalg@mcmaster.ca Room # 108 Psych. Bldg.

Office Hours To be announced.

Teaching Assistants:

To be announced.

Course Description and Objectives:

Basic survival of an organism relies upon its knowing the world that surrounds it. The fundamental system that underlies this knowing is what “Sensory Processes” is all about. Perhaps, it may not be an exaggeration to state that in sensory mechanisms one sees the ‘constant endeavor’ of human consciousness to explore the world around. Exploring this is indeed an exciting task. The ever-growing tools of investigation make this attempt even more fascinating. Further, the vignettes from psychology serve as ‘road-maps’ for our exciting and ambitious journey towards understanding the sensory processes.

Required textbook:

“Sensation and Perception” –E B Goldstein (7th Edition) Wadsworth Publication.

Lectures:

The lectures will cover material from the textbook as well as from outside sources. Important slides for the lecture will be posted prior to every class on the E-

Learn@Mac (ELM) (available at elm.mcmaster.ca). Students are advised to make their own notes in class.

Assignments:

- a. Students are required to review two journal articles. The PDF format of the papers along with the questions will be posted on the E-Learn@Mac (ELM) (available at elm.mcmaster.ca).
- b. Both the assignments **together**, will be worth **20%** of the final grade.
- c. **The assignments must be submitted prior to the specified dates.** They may be submitted in class. A penalty of 10% /day will be applied for delayed submission. After the 3rd day, the assignment will get a zero. In the event of an illness or any legitimate reasons, an official permission should be routed through the Administration excusing the delayed submission.
- d. The assignments must be typed, with double-line spacing. Emailing of assignments is not permitted.
- e. Language will not be an issue in the marking. Point-form of answers would do.

Evaluations:

1. **First midterm examination:** The midterm examinations will be worth **20%** of the final grade. About 90% of the material covered in class prior to 1st midterm examination and 10% from assigned readings in the text will be on 1st midterm examination. Page numbers of the assigned readings will be posted prior to every lecture. Besides **multiple choice questions** there will be a few **short answer** type questions comprising of definitions and some important concepts discussed in class. **Material from the home-assignments will NOT be tested.**
2. **Second midterm examination:** The midterm examinations will be worth **20%** of the final grade. About 90% of the material covered in class after the 1st midterm examination and prior to 2nd midterm examination and 10% from assigned readings in the text will be on 2nd midterm examination. Page numbers of the assigned readings will be posted prior to every lecture. Besides **multiple choice questions** there will be a few **short answer** type questions comprising of

definitions and some important concepts discussed in class. **Material from the home-assignments will NOT be tested.**

3. **Final examination:** It will be worth **40%** of final grade. It will test 90% of the material covered in the entire course and 10% from the entire assigned readings. There will be greater emphasis on what is covered after the 2nd midterm examination. Besides **multiple choice questions** there will be a few **short answer** type questions comprising of definitions and some important concepts discussed in class. **Material from the home-assignments will NOT be tested.** Dates for the midterm examinations are indicated in the List of Lectures below. Date for the final examination will be determined by the Registrar's Office.
4. **Assignments:** There will be **TWO** home assignments, **together** worth **20%** of the final grade. They will be based on two journal articles. **They have to be submitted by the absolute deadlines that are indicated in the table of schedule provided below.**

Remarking of Assignments or Short Answers: Requests for remarking of an Assignment or a Short Answer is only considered after a student provides a written request giving the reasons for the request to either, Dr. Ullal or the TAs.

MISSED EXAMINATIONS: There will **NOT** be a re-examination for missing any of the midterm examinations. However, if a student misses any examination owing to an illness or any other legitimate reason, the final examination will be rated proportionately higher provided an official permission is routed through the University Administration. No examination will be re-scheduled unless there is cancellation of the class by the University.

CONFLICT OF EXAMINATIONS: Since the midterm examinations are conducted during the regular class-hour, if any other examination conflicts with this examination, please contact the authorities conducting the other examination.

"IMPORTANT ANNOUNCEMENTS": Important announcements regarding the course will be periodically posted in the **Announcement Box** of the course. Please remain updated.

MCMASTER UNIVERSITY GRADING SCALE:

Grade	Equivalent Grade Point	Equivalent Percentages
A+	12	90-100
A	11	85-89
A-	10	80-84
B+	9	77-79
B	8	73-76
B-	7	70-72
C+	6	67-69
C	5	63-66
C-	4	60-62
D+	3	57-59
D	2	53-56
D-	1	50-52
F	0	0-49

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Schedule of lecture topics

NOTE

1. The topics listed for the lectures below will follow the dates against them approximately.
2. About 90% of the material covered in class and 10% from assigned readings in the text will be on each of the examinations. Page numbers of the assigned readings from the textbook will be posted prior to every lecture.

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Session	Date	Topic/Activity
1	January 4	Course outline
2	6	Introduction to sensory mechanisms-1
3	8	Introduction to sensory mechanisms-2
4	11	Investigating the sensory system-1
5	13	Investigating the sensory system-2
6	15	Investigating the sensory system-3
7	18	Introduction to vision and the eye
8	20	Retina
9	22	Phototransduction
10	25	Lateral inhibition
11	27	Receptive fields
12	29	Retinal projections-1
13	February 1	1st MID TERM EXAMINATION (in class)
14	3	Retinal projections-2
15	5	Organization of visual cortex
16	8	Vision for survival and cognition-1
17	10	Vision for survival and cognition-2
18	12	Depth perception
	15-19	RECESS
19	22	Colour perception-1 <i>Assignment-1 is due</i>
20	24	Colour perception-2
21	26	Face perception
22	March 1	Movement perception and optic flow
23	3	Introduction to audition and the ear
24	5	Cochlea structure
25	8	2nd MID TERM EXAMINATION (in class)
26	10	Cochlear microphonics

27	12	Mechanism of hearing
28	15	Sound localization
29	17	Auditory pathways
30	19	Speech perception
31	22	Vestibular sensations <i>Assignment-2 is due</i>
32	24	Cutaneous sensations
33	26	Pain mechanisms and psychology of pain
34	29	Chemical sensations-1
35	31	Chemical sensations-2
36	April 5	Leftover topics
37	7	Review

NOTE ABOUT THE FINAL EXAMINATION

- The University will announce dates for the final examination.
- The final examination is **cumulative**. It will cover the **entire material** covered in the lectures (90%) and the entire assigned textbook readings (10%).
- Final examination follows similar pattern as the midterm examinations. There will be both **multiple choice questions** as well as **short answer** type questions on the final examination.

DISCLAIMER

The instructor and University reserve the right to modify elements of the course during the term. The University may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

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NOTE ABOUT ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at <http://www.mcmaster.ca/academicintegrity>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one’s own or for which other credit has been obtained.
2. Improper collaboration in group-work.
3. Copying or using unauthorized aids in tests and examinations.

Message from the Chair of Psychology

The Instructor cannot be responsible for returning long distance calls from students. Any student wishing to reach an Instructor is invited to e-mail the instructor. Emails should be sent through the McMaster ID.