

Sensory Processes (2E03E)

Winter 2008-2009 Location: TSH/B128; Fridays 7 to 10 pm

Course Outline

Course Instructor: Dr. Ullal, G.

Contact: Department of Psychology, Neuroscience and Behaviour.

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Office Hours: *Students are encouraged to remain in-touch with me or the TAs.*

There are no specific “Office Hours”. Please feel free to email either me or the TAs and make an appointment for any day during the week. Around the mid-term examinations and before the final examination special time-slots will be provided.

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 clinical vignettes serve as ‘road-maps’ for our exciting and ambitious journey towards understanding the brain through Sensory Processes.

Textbook:

The text that may offer a helpful support for the course is “*Sensation and Perception*” –E B Goldstein (7th Edition) Wadsworth Publication.

Journal Articles for Home-Assignment: Two journal articles will be reviewed in the course. The PDF format of the papers will be posted on the WebCT very soon

NOTE: **Examinations are based on lectures and the readings from the assignments.**

About 5% of each of the midterm examinations and the final exam will be from the readings from the assignments. The lectures will cover material from the textbook as well as from outside sources. Important PowerPoint slides for the lecture will be posted prior to every class on the WebCT. Students are advised to make their own notes in class.

Details of the assignment papers will be posted on the WebCT shortly.

NOTE:

- a. Students are required to study the article and address a few questions pertaining to it in the form of home-assignments. The questions will be provided.
- 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.
- f. **5% of the material each for 1st and 2nd midterm examinations and the final examination will be from the journal article.**

Evaluations

1. **First midterm examination:** The midterm examinations will be worth **20%** of the final grade. Only material covered in class in all the lectures prior to 1st midterm examination will be on 1st 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. **5% of the material will be from the 1st assignment.**
2. **Second midterm examination:** The midterm examinations will be worth **20%** of the final grade. Only material covered in class in all the lectures after the 1st midterm examination and prior to 2nd midterm examination will be tested. Besides **multiple choice questions** there will be a few **short answer** type questions comprising of definitions and some important concepts discussed in class. **5% of the material will be from the 2nd assignment.**
 3. **Final examination:** It will be worth **40%** of final grade. It will test the material covered in the entire course with a greater emphasis on what is covered after the 2nd midterm examination. It will be worth **40%** of final grade. It will test the material covered in the entire course. Besides **multiple choice questions** there will be a few **short answer** type questions comprising of definitions and some important concepts discussed in class. **5% of the material will be from the 1st and 2nd assignments.** 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 listed above. **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 WebCT. 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 and reading

NOTE

1. The topics listed for the lectures below will follow the dates against them approximately.
2. Only what is taught in class will be tested.

Session	Date	Learning Objectives	Suggested reading from the text
1	8 th January	Introduction and Organization of Sensory system-1	p. 3-12
2	15 th January	Organization of Sensory system-2 and Investigating the Sensory Mechanism-1	p. 13-17
3	22 nd January	Investigating the Sensory System-2 and Micro organization of Sensory System	p. 20-29
4	29 th January	Vision-1: Eyeball, Accommodation and the Refractory Media 1st Assignment due	p. 29-31
5	5 th February	1st In-class midterm examination followed by lecture- Vision-2: The retinal plan	Material from Lecture 1 to 4 (including 9) and 1 st assignment p. 32-33 and p. 46-47
6	12 th February	Vision-3: Phototransduction, Light and Dark Adaptation 'ON' 'OFF' Receptive fields and Lateral Inhibition	p. 33- 37 p. 48-59
7	26 th February	Vision-4: Retinal projections, Visual pathway, LGN and Pulvinar	p. 71-75
8	5 th March	Vision-5: Organization of Visual Cortex;	p. 59-69, p. 75-82

		The 'Visual Streams'	and p. 204-209
9	12 th March	Vision-6: Colour Vision, Depth Perception and Optical Flow 2nd Assignment due	p. 141-165, p. 167-193 and p. 216-219
10	19 th March	2nd In-class midterm examination followed by lecture- Vison-7: Face Perception.	Material from Lecture 5 to 9 (including 9) and 2 nd assignment p. 85-89
11	26 th March	Audition-1 External, middle ear and Structure of internal ear.	p. 233-243
12	2 nd April	Audition-2: Mechanism of hearing, Sound localization, Auditory pathway.	p. 243-253 and p. 265-275.

NOTE ABOUT THE FINAL EXAMINATION

- Dates for the final examination will be announced by the University.
- The final examination is **cumulative**. It will cover the **entire material** covered in the lectures.
- 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.

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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.