

Fundamental neurosciences (2F03)
Venue of lectures ITB/137
Time: M & W 2:30 pm to 3:20 pm; F 4:30 pm to 5:20 pm

Course Instructor: Dr. Ullal, G.

Contact: Department of Psychology, Neuroscience and Behaviour.

Tel. 21331; email: ullalg@mcmaster.ca

Office Hours: ***There are no specific “Office Hours”. Please feel free to email any one of us 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.***

Names of **teaching assistants**, their email IDs and office-contacts will be provided.

Course Objectives:

This course is primarily aimed at offering a glimpse of complex neural systems in normal and diseased states. We will address the neural structures and mechanisms underlying this.

The text book for the course: Dale Purves *et al.* Neuroscience 4th Edition, Sinauer Associates Inc. USA. 2008. The chapters pertaining to each lecture are indicated in the Schedule below.

1. **Course website:** A scheme of every forthcoming lecture along with important slides will be posted on the course website of Psychology department, prior to every lecture. Students are encouraged to visit the website regularly to look for any important announcements that would appear periodically.

2. **Text:** In the Course Outline provided below, page numbers of the text have been indicated. However, the lectures and examinations DO NOT STRICTLY adhere to the contents of the text book. Students are therefore advised to print the slides off the website and make notes during the lecture.
NOTE: Examinations are based on lectures. The lectures will cover material from the textbook as well as from outside sources. Skeleton PowerPoint slides for the lecture will be posted prior to every class. Students are advised to make their own notes in class.
3. **Home-Assignments:** Besides the textbook, two journal articles will be reviewed in the course. Particulars of the paper and due dates for the assignment will be announced shortly. The PDF format of the papers will be posted at an appropriate time during the course.
 - 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 to the allotted TA prior to the specified dates.** A penalty of 10% /day will be applied for delayed submission. By 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 suffice.

4. 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.
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.
3. **Final examination:** It will be worth **40%** of final grade. It will test the material covered in the entire course. This will be entirely based on **multiple-choice questions (there will not be short-answers on the final examination)**. 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** take home assignments, **together** worth **20%** of the final grade. They will be based on two journal articles that will be provided. **They have to be submitted to the TAs by the absolute deadline indicated above as well as in the table of schedule provided below.**
NOTE: A penalty of 10% /day will be applied for delayed submission. By 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.

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 concerned TA.

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: Both 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

Schedule of Lectures

More elaborate information about every session will be posted on the course website periodically before every lecture.

All examination questions will come from material covered in the lecture

Suggested readings are meant to assist in the understanding of the course material. They do not confine to the text.

Examinations are entirely based on the lecture material.

Session number	DATE	TOPIC	Suggested reading in TEXT
1	7 th Jan	Introduction to the course	
2	9 th Jan	Introduction to the nervous System	
3	11 th Jan	Investigating the nervous system-1	Ch1
4	14 th Jan	Investigating the nervous system-2	Ch 1
5	16 th Jan	Organization of the nervous system Macro Level- 1	Ch 1
6	18 th Jan	Organization of the nervous system Macro Level- 2	Ch 1
7	21 st Jan	Organization of the nervous system Macro Level- 3	Partly Ch 1
8	23 rd Jan	Organization of the nervous system Micro Level- 1	Ch 2 to Ch 8

9	25 th Jan	Organization of the nervous system Micro Level- 2	Ch 2 to Ch 8
10	28 th Jan	Organization of the nervous system Micro Level- 3	Ch 2 to Ch 8
11	30 th Jan	Membrane Potentials and Nerve Conduction	Ch 2 to Ch 8
12	1 st Feb	1st Midterm examination	Lecture 1 to 11 (including 11)
13	4 th Feb	Sensory Mechanism: Somatosensations-1	Ch 9
14	6 th Feb	Sensory Mechanism: Somatosensations-2	Ch 9
15	8 th Feb	Sensory Mechanism: Pain	Ch 10
16	11 th Feb	Sensory Mechanism: Vision-1	Ch 11
17	13 th Feb	Sensory Mechanism: Vision-2	Ch 11
18	15 th Feb	Sensory Mechanism: Vision-3	Ch 12
19	25 th Feb	Sensory Mechanism: Audition-1	Ch 13
20	27 th Feb	Sensory Mechanism: Audition-2	Ch 13
21	29 th Feb	Vestibular system	Ch 14
22	3 rd March	Mechanism of Movement: 1 Organization	Ch 16 to Ch 17
23	5 th March	Mechanism of Movement: 2 Pyramidal system	Ch 16 to Ch 17
24	7 th March	Mechanism of Movement: 3 Extraparamidal system and Basal ganglia	Ch 18

25	10 th March	Mechanism of Movement: Extrapyramidal system and Basal ganglia (contd.)	Ch 18
26	12 th March	Mechanism of Movement: 4 Cerebellum	Ch 19
27	14 th March	Mechanism of Movement: 5 Coordination of complex movements	Ch 19 and Ch 20
28	17th March	2nd Midterm examination	Lecture 13 to 27 (including 27)
29	19 th March	Complex Brain Functions: 1 Association Cortices	Ch 26
30	24 th March	Complex Brain Functions: 2 Speech	Ch 27
31	26 th March	Complex Brain Functions: 3 Emotions	Ch 29
32	28 th March	Complex Brain Functions: 4 Sexuality	Ch 30
33	31 st March	Complex Brain Functions: 5 Memory	Ch 31
34	2 nd April	Complex Brain Functions: 6 Sleep and Wakefulness	Ch 28
35	4 th April	Catch-up topics	
36	7 th April	Review-1	
37	9 th April	Review-2	

The final examination is cumulative. It will cover the entire material covered in the lectures.

A Note on Academic Dishonesty

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.