

**Fundamental neurosciences (2F03)**  
**Venue of lectures: TSH/B105**  
**Time: Tue & Thu 1:30 pm to 4:30 pm**

**Course Instructor:** Dr. Ullal, G.

**Contact:** Department of Psychology, Neuroscience and Behaviour.

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Office Hours: ***There are no specific “Office Hours”. Please feel free to email me 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.***

**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 textbook for the course: Dale Purves *et al.* Neuroscience 4<sup>th</sup> 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. **Examinations:** There will be two midterm examinations and one final examination. The midterm examinations will be worth 25% each and the final will be worth 50% of the total. All the exams (including final) will be based on a few short answers and multiple-choice questions. They will be held during the class hour.

**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:** All the examinations (including the final) 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.*

<b>Session number</b>	<b>DATE</b>	<b>TOPIC</b>	<b>Suggested reading in TEXT</b>
1	June 24 <sup>th</sup>	Introduction to the course and the nervous system	
2	June 26 <sup>th</sup>	Investigating the nervous system-1 Electrophysiology	Ch1
3	July 3 <sup>rd</sup>	Investigating the nervous system- 2 Neuroimaging, Molecular biology and Neural Network	Ch 1
4	July 8 <sup>th</sup>	Gross Neuroanatomy Meninges, CSF, Blood flow and the Blood Brain Barrier	Ch 1
5	July 10 <sup>th</sup>	<b>1<sup>st</sup> Midterm examination</b> followed by lecture: Neuron, Glia, Axon transport and Signalling Endosome,	Ch 2

6	July 15 <sup>th</sup>	Resting Membrane Potentials, Nerve Impulse, Nerve conduction, Synapse and Synaptic Plasticity	Parts of Ch 2-5 and 8
7	July 17 <sup>th</sup>	Somatosensations and Pain	Ch 9-10
8	July 22 <sup>nd</sup>	Vision	Ch 11-12
9	July 24 <sup>th</sup>	<b>2<sup>nd</sup> Midterm examination</b> followed by lecture: Audition (External and Middle Ear)	Ch 13
10	July 29 <sup>th</sup>	Internal ear mechanism and Vestibular System	Ch 13 and 14
11	July 31 <sup>st</sup>	Pyramidal and Extrapyramidal Motor System	Ch 16-19
12	Aug 5 <sup>th</sup>	Cerebellum and the Servo Mechanism	Ch 16-19
13	Aug 7 <sup>th</sup>	<b>Final examination</b>	<b>Lecture 1 to 12</b>

**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.