LIFS 3240 Introduction to Neurobiology
Course Outline- Spring 2018

1. **Instructors:** Dr. Julie Semmelhack jsemmelhack@ust.hk (course coordinator)
   Dr. Kenny K. Chung bckchung@ust.hk

2. **Course Description**

   The course will introduce principles of neuroscience with a focus on the systems/neural circuit level. We will begin with the study of neurons: their structure, the propagation of nerve impulses and transfer of information between neurons. We then move to the sensory systems such as olfaction, hearing, and vision and discuss how external signals, e.g. light, are converted into neural signals, where these signals travel in the brain, and how they are processed. Next we study the control of movement. Finally, we cover the systems which control attention, learning and memory, and sleep. Throughout the course, students will learn about new techniques such as functional imaging, optogenetics, and connectomics that are driving new discoveries in neuroscience. As part of the group project, students will learn how to read, evaluate, and present a scientific paper, a key skill in any research career, and also useful to anyone interested in public health or technology.

   Credit Points: 3

   Pre-requisite: LIFS 2040

3. **Intended Learning Outcomes**

   Upon successful completion of this course, students should be able to:

No.	ILOs
1	Describe the mechanisms of sensory and motor systems.
2	Design neuroscience experiments using modern techniques.
3	Explain and evaluate a scientific paper.

4. **Assessment Scheme**

Assessment	Assessing Course ILOs
5% Problem Set	1, 2
30% Midterm	1, 2
25% Group project	3
40% Final	1, 2

5. **Meeting Time and Venue**

   Venue: Room 1103

   Date/Time: Tuesday and Thursday, 12:00 – 13:20

6. Student Learning Resources

Required Textbook: M.F. Bear, B. Connors, M. Paradiso, "Neuroscience: Exploring the Brain," 4th Edition, Wolters Kluwer.

Two copies are on reserve at the Library.

7. Academic Integrity and Fairness

In order to ensure fair assessments, the University regulations on Academic Integrity (http://ugadmin.ust.hk/integrity/regulations-1.html) will be enforced. For the group project, all members must be involved in the presentation, and the instructor will check in on the group to make sure that all members have read and understood the paper.

8. Learning environment

Responsibilities of the Instructors

We will:

- Make every effort to build a valuable learning experience
- Work to ensure that exams and assignments are fair and helpful
- Respond to your feedback on how to make the course better
- Answer your questions respectfully

Responsibilities of students

We expect you to:

- Arrive on time (let us know ahead of time if you have to arrive late or leave early due to an unavoidable conflict)
- Avoid disturbing other students during lecture; silence phones, do not have side conversations
- Ask questions if anything is unclear
- Treat other student's questions with respect