

## **SEMESTER I & II**

### **LSM2233 CELL BIOLOGY**

**Prerequisite:** LSM1106

**Workload:** 35 lecture hours + 11 tutorial hours

#### **Course description:**

This course provides a comprehensive understanding of sub-cellular structures, functions and interactions in unicellular and multi-cellular systems, with a focus on cellular processes, their inter-relationships and contribution to human health and diseases. In addition, students will be introduced to the current concepts of intercellular and intracellular signaling, the molecular basis of cell proliferation, the cell cycle and apoptosis. The emphasis will be on gaining skills to acquire scientific knowledge independently and apply concepts to critically analyse cell biology-related data. Students will also be exposed to techniques and approaches to scientific research. Most lectures include various in-class individual or group based activities, such as online quizzes and group discussions. In these activities, students will apply concepts learned to cell biology related research questions. Ultimately, students should be able to make use of their various concepts and skills to synthesize knowledge about cell biology that would help them in subsequent modules. To foster independent learning, different modes of assessments will be used in our assignments. The assignments also help students prepare for the open-book final examination.

S/N	Topics	Lecture/Tutorial hours
<b>Note that these topics are listed here to provide a simplified view of the content. However, these will be taught in an integrated manner in our blended lecture and tutorial sessions.</b>		
1.	Organelles and Parkinson's disease	8
2.	Signalling	2
3.	Organelle and Infection	6
4.	Intracellular protein trafficking and Diabetes	6
5.	Intracellular cell signaling	8
6.	Apoptosis	6
7.	Cellular proliferation and Cancer	10
	Total lecture hours:	20h
	Total tutorial hours:	16h
	<b>Total hours:</b>	46h

**TEXT BOOKS:** Molecular Cell Biology 7<sup>th</sup> Edition, 2013 (Lodish & co-authors)  
Molecular Biology of the Cell, 5<sup>th</sup> Edition, 2009, Alberts & co-authors

#### **MODULE CO-ORDINATOR:**

**Semester 1**      A/P Yeong Foong May

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**Semester 2**      A/P Thilo Hagen

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**MODE OF ASSESSMENT:**      Online assignments and opened-book CAs and assignments (65%),  
Final examination (open book) (35%)

#### **LECTURERS:**

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