

SEMESTER I & II
LSM2233 CELL BIOLOGY

Prerequisite: LSM1106

Workload: 35 lecture hours + 11 tutorial hours

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. Topics include structure and functions of organelles, intracellular protein trafficking, the cytoskeleton and cell movements. 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 acquiring 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. 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.

S/N	Topics	Lecture/Tutorial hours
1.	Organelles and Parkinson's disease	8
2.	Cytoskeleton (Actin microfilaments, microtubules & intermediate filaments)	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
	Total hours:	46h

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

MODULE CO-ORDINATOR:

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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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