Course Title/Code: Advanced Cell Biology (MMPH6007)

Department School of Biomedical Sciences

Objective:

- To provide students with a general knowledge of cell biology.
- To introduce the regulation of cell functions by signaling pathways.
- To introduce students with recent advances and application in cell biology.

Content:

- Essential components of the cell
- Cell cycle and cell divisions
- Cell survival and apoptosis
- Calcium signals in cellular communication
- Hedgehog signalling in development
- Cellular stress response
- Cell-cell interaction
- Neural stem cell
- Glial cell biology
- Intracellular transport in neuron
- Neuronal and glial migration
- Neurological disorders

Learning outcomes: On completion of the course, students will be able to:

- recognise the general structure and functions of cells
- describe cell cycle and the regulations of cell proliferation, differentiation and death
- summarise cellular signaling pathways and their roles in cell functions
- describe cellular interaction and relate its importance in immune response
- recognise the current advance in neural stem cell and its potential clinical application
- understand the functions of glial cell
- describe the intraneuronal transport machineries
- recognise the regulatory mechanisms on neuronal migration

Prerequisite:	BSc
Duration:	24 contact hours
Continuous assessment/ examination ratio:	Presentation [20%] Essay [10%] Examination [70%]
Examination method/ duration:	Written examination / 2 hours
Remarks:	Also offered to RPg from other Faculties at HKU