

課程名稱：BMES421200分子細胞生物學 (Molecular and Cell Biology)

學分數：3

時間：Monday 7, 8, 9

地點：醫環系R401

授課老師：張建文 (C.W. Chang)

助教：To be determined

課程目標 (Purpose): To provide students with knowledge on the fundamental of cell biology and its linking to biomedical engineering applications. Specifically, this course will cover: (1) structure and function of cellular components; (2) cellular transport and (3) cell communication.

Schedule:

Lecture number	Topics
L1	Introduction to cells/chemical components of cells
L2	Methods to study cell
L3	Membrane structure/transport
L4	Intracellular compartments (organelles) and transport
L5	Cytoskeleton part 1: microfilaments
L6	Cytoskeleton part 2: microtubules and intermediate filaments
L7	Special topics: cell biology for drug delivery Mid-term exam
L8	The nucleus and nuclear trafficking
L9	Cell communication
L10	The cell division cycle
L11	Cellular communities: tissues, stem cells, and cancer
L12	Special topics: cell biology for tissue engineering and regenerative medicine Final exam