

課程名稱：BMES423100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：陳佩瑩

課程目標 (Purpose): To provide students with knowledge on the fundamentals of cell biology and its linking to applications in biomedical engineering and applied sciences. Specifically, this course will cover: (1) structure/function of cellular components; (2) cellular transport; (3) cell division and (4) cellular communication.

Schedule:

Lecture	Title
9/16	L1 Introduction to cells
9/23	L2 Chemical components of cells / Methods to study cell
9/30	L3-1 Membrane transport / Intracellular components
10/7	L3-2 Intracellular transport
10/14	L4 Cytoskeleton part 1: microfilaments
10/21	L5 Cytoskeleton part 2: microtubules and intermediate filaments
10/28	L6 Cell division cycle
11/4	Mid-term exam
11/11	L7 Sex and genetics
11/18	L8 Control of gene expression and gene analysis
11/25	L9 Cell communication I
12/2	L10 Cell communication II
12/9	L11 Cellular communities: tissues
12/16	L12 Special topics I: cell biology for tissue engineering and regenerative medicine
12/23	L13 Special topics II: cell biology for tissue engineering and regenerative medicine
12/30	L14 Cellular communities: stem cells and cancer / Final exam quick review
1/13	Final Exam

Textbook:

Bruce Alberts et al., Essential Cell Biology (3rd edition). Garland Science (2009).

Grading:

20% class participation /quiz; 10% group project; 35% midterm exam; 35% final exam.