

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：林逸絃

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
9/15	L1 Introduction
9/22	L2 Chemical components of cells / Methods to study cell
9/29	L3-1 Membrane transport / Intracellular components
10/6	L3-2 Intracellular transport
10/13	L4 Cytoskeleton part 1: microfilaments
10/20	L5 Cytoskeleton part 2: microtubules and intermediate filaments
10/27	L6 Cell division cycle
11/3	Mid-term exam
11/10	L7 Sex and genetics
11/17	L8 Control of gene expression and gene analysis
11/24	L9 Cell communication I
12/1	L10 Cell communication II
12/8	L11 Cellular communities: tissues
12/15	L12 Special topics I: cell biology for tissue engineering and regenerative medicine
12/22	L13 Special topics II: cell biology for tissue engineering and regenerative medicine
12/29	L14 Cellular communities: stem cells and cancer / Final exam quick review
1/5	Final Exam

Textbook:

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

Grading:

上課參與 + 小考 20% ; 報告 10 % ; 期中考 35 % ; 期末考 35 %