

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：白乙辰、蔡尚謀

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

Textbook:

Bruce Alberts et al., Essential Cell Biology. Garland Science.

Grading:

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