

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:

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Lecture	Title
9/17	L1 Introduction to cells / Chemical components of cells
10/5	L2 Methods to study cell / Membrane transport)
10/8	L3 Intracellular components and transport
10/15	L4 Cytoskeleton part 1: microfilaments
10/22	L5 Cytoskeleton part 2: microtubules and intermediate filaments
10/29	L6 Cell division cycle
11/5	Mid-term exam
11/12	L7 Sex and genetics
11/19	L8 Control of gene expression and gene analysis
11/26	L9 Cell communication I
12/3	L10 Cell communication II
12/10	L11 Cellular communities: tissues
12/17	L12 Special topics I: cell biology for tissue engineering and regenerative medicine
12/24	L13 Special topics II: cell biology for tissue engineering and regenerative medicine
12/31	調整放假 (根據101年政府行政機關辦公日曆表)
1/7	L14 Cellular communities: stem cells and cancer / Final exam quick review
1/14	Final Exam

Textbook:

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

Grading:

30% class participation /quiz; 10% group project; 30% midterm exam; 30% final exam.