

2026-2027, Fall semester

ADVANCED MOLECULAR BIOLOGY

(Course taught in English)

Course Goals: Molecular biology is an academic discipline to understand complicated biological phenomena at the molecular level. Through the progress of this molecular biology, we have created technologies such as gene therapy and gene recombination. In this lecture, we will learn the fundamentals and applications of molecular biology through the function of genes.

Course Format: The course includes 14 lectures, 3 exam and 1 PBL. The lectures and PBL will be given by the assigned professors with expertise in the lecture topic. In the PBL, students in groups will be asked to present a most-updated journal paper on the topics they have learned from lectures and panel discussion, and write an assigned homework regarding the topic.

Course Materials: Listed reference books and lecture notes.

Grading Criteria: Punctuality and attendance (10%), Exams (84%) and PBL (6%).

Class Time:	Tuesday, 9:00AM - 12:00PM
Classroom:	Bio-Medicine Building 13215
Coordinator(s):	橋本昌征 (ext.3615)
Teaching Assistant:	陳姿羽 (ext.3621)

No	Date	Lecture topics	Lecturer
1	09月08日	Introduction: Gene, genome, molecule	橋本昌征 (IMM)
2	09月15日	Nucleosome, Chromosome & Epigenetic Regulation	陳燦然 (IMM)
3	09月22日	Procaryotic DNA replication	橋本昌征 (IMM)
4	09月29日	Eukaryotic DNA replication	蔡智瑄 (IMI)
5	10月06日	DNA recombination and Repair	蔡智瑄 (IMI)
6	10月13日	Exam1	橋本昌征/陳燦然/蔡智瑄
7	10月20日	Prokaryotic transcription	橋本昌征 (IMM)
8	10月27日	Prokaryotic transcriptional regulation	橋本昌征 (IMM)
9	11月03日	Eukaryotic transcription	林世杰 (IBMS)
10	11月10日	RNA Processing and Modification	林世杰 (IBMS)
11	11月17日	Noncoding RNAs	蔡智瑄 (IMI)
12	11月24日	Exam2	橋本昌征/林世杰/蔡智瑄
13	12月01日	Translation	余建泓 (BIMB)
14	12月08日	Protein folding and structure	黃湘琦 (IMM)
15	12月15日	Protein function and degradation	黃湘琦 (IMM)
16	12月22日	Post-translational modification	黃湘琦 (IMM)
17	12月29日	PBL	朱俊憲 (IMM)
18	01月05日	Exam3	余建泓/黃湘琦