

高等分子生物學-2 (Fall Semester, 2024) Advanced Molecular Biology-2

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 lectures will be given by the assigned professors with expertise in the lecture topic in English.

Course Materials: Listed reference books and lecture notes.

Grading Criteria: Midterm Exam (50%), Term exam (50%)

Department:	Institute of molecular medicine
Class time:	Wednesday, 9:10 - 12:00 AM
Number of credits:	3 credits
Classroom:	Lecture room 302D, College of medicine, NCKU
Coordinator(s):	橋本昌征 (ext. 3615) (hashmate@mail.ncku.edu.tw)
Teaching assistant:	吳振義 (ext. 3621) (wuzhenyee@ymail.com)

Week	Date	Lecturer	Topic
1	9/11	橋本昌征/張雋曦	Molecular Nature of Genes; Introduction to Gene Function
2	9/18	橋本昌征/張雋曦	DNA Replication I: Basic Mechanism and Enzymology
3	9/25	橋本昌征/張雋曦	DNA Replication II: Detailed Mechanism
4	10/2	橋本昌征/張雋曦	Homologous Recombination, Transposition
5	10/9	橋本昌征/張雋曦	The Mechanism of Transcription in Prokaryotes
6	10/16	橋本昌征/張雋曦	Eukaryotic RNA Polymerases and Their Promoters
7	10/23	橋本昌征/張雋曦	General Transcription Factors in Eukaryotes
8	10/30	朱俊憲/張雋曦	Transcription Activators in Eukaryotes
9	11/6	朱俊憲/張雋曦	Chromatin Structure and Its Effects on Transcription
10	11/13	朱俊憲/張雋曦	Exam 1
11	11/20	朱俊憲/張雋曦	Messenger RNA Processing I: Splicing
12	11/27	朱俊憲/張雋曦	Messenger RNA Processing II: Capping and Polyadenylation; Other RNA Processing Events
13	12/4	朱俊憲/張雋曦	Messenger RNA Processing II: Capping and Polyadenylation; Other RNA Processing Mechanism of Translation I: Initiation
14	12/11	蔡智瑄/張雋曦	Mechanism of Translation II: Elongation and Termination
15	12/18	蔡智瑄/張雋曦	Ribosomes and Transfer RNA
16	12/25	蔡智瑄/張雋曦	Protein structures and functions
17	1/8	蔡智瑄/張雋曦	Genomics and Proteomics
18	1/15	橋本昌征/張雋曦	Exam 2