

Introduction to Genomics sequencing: Data and Analysis 基因體定序：理論及方法	
Course Code:	DIC 8031
Credits	Three (lectures: 3hrs per week)
Organizers	Chung-Ping Lin and Isheng Jason Tsai
Time	Wednesday 14:20-17:20
Place	B208, Biodiversity Research Center, AS
Description	This module aims to cover the backgrounds of sequencing, and what you can do with it in research. This module will also provide hands-on exercises from real-world scenarios.
Purpose	Basic background in genomics and to deliver the most updated knowledge, skills and applications to current biological problems
Grade	40% Assignment; 30% Final Exam; 30% Attendance

Week	Date	Topic
Week 1	3/4	Introductory lecture (Jason)
Week 2	3/11	Linux and R; basic usage (Jason)
Week 3	3/18	* Practical I: Statistics in R (Jason)
Week 4	3/25	Mapping and Case studies (Jason)
Week 5	4/1	Genome Assembly (Jason)
Week 6	4/8	Comparative Genomics (Jason)
Week 7	4/15	Transcriptomes (Jason)
Week 8	4/22	Alignment to phylogenies (Professor Jia-Ming Chang)
Week 9	4/29	Amplicon / Metagenomic (Jason)
Week 10	5/6	Population Genomics (Dr. John Wang)
Week 11	5/13	* Study week (no class; Protocol assignment due)
Week 12	5/20	* Midterm exam (Students)
Week 13	5/27	* Practical II: Nanopore sequencing (Dr. Huei-Mien Ke and Dr. Tom Lin)
Week 14	6/3	* Practical III: Mapping and Phylogeny in R (Jason)
Week 15	6/10	* Practical IV: RNAseq analysis in R (Jason)
Week 16	6/17	Experiences in NGS library preparation and construction (Dr. Meiyeh Lu)
Week 17	6/24	* Study week (no class; R assignment due)
Week 18	7/1	* Final presentation (Students)

*Enrolled students only