TIGP Bioinformatics Program
Basic Molecular Biology I (B1)
Fall 2026 Syllabus

Latest syllabus: https://tigpbio.programs.sinica.edu.tw/

Place: Room 308, Institute of Statistical Science, Academia Sinica

Time: Tuesday 09:00-12:00

Chair: Dr. Ho-Ming Chen (homing@gate.sinica.edu.tw)

Aim: Understanding the key concepts in molecular and cell biology and their experimental underpinnings

Textbook: (Required)
1. Molecular Cell Biology, 7th edition, by Harvey Lodish et al. Publisher: W. H. Freeman. International Edition (13 Aug, 2012). ISBN-13: 9781464109812.
Local book store: http://www.yihsient.com.tw/front/bin/ptdetail.phtml?Part=06585
Reference: (Recommended but not required)
2. Molecular Biology of the Cell, 6th edition, 2014.
http://www.yihsient.com.tw/front/bin/ptdetail.phtml?Part=06595&Rcg=53601
3. Molecular Biology: Principles of Genome Function, 2nd edition, 2014.
http://www.yihsient.com.tw/front/bin/ptdetail.phtml?Part=06594&Rcg=52559
4. Biochemistry: A Short Course, 2nd edition, by Lubert Stryer et al. Publisher: W. H. Freeman (December 23, 2011). ISBN-10: 1429283602, ISBN-13: 978-1429283601.

TA: N/A (Please refer to the lectures respectively shall you have any questions for each class)

Grades: Midterm exam 50%. Final exam 50%.

【For Non-BP student】

For Non-BP student to register/sit-in any BP course, it is required to gain course chair's permission:

(1) Basic Enrollment Information form https://forms.gle/oK7vJzzrx9EvybbT9
(2) TIGP-BP Course Registration Consent Form
https://tigpbio.programs.sinica.edu.tw/index/TIGP%20Bioinformatics_Class%20Registration%20Consent%20Form.docx

※ Deadline: **the 4th week** of each semester.
※ Signature of the course chair should be collected before submission. Incomplete form will not be accepted.
※Course grade will NOT be given (even class enrollment is completed at school) if fail to follow the above procedures.

Week	Date	Topics/Brief Description	Lecturers	Evaluation Method	Email
1	2026/9/8 Online Only	Molecules, Cells, and Evolution	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline: ▶ 2026/9/15	uyang@nycu.edu.tw (cc: mmtu0103@gmail.com)
2	2026/9/15 Online Only	Basic Molecular Genetic Mechanisms	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline	
3	2026/9/22 Online Only	Molecular Genetic Techniques	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline	
4	2026/9/29 Online Only	Cellular Energetics	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline	
5	2026/10/6	Genes, Genomics, and Chromosomes	Dr. Liang-Chuan Lai	Take-home exam with a specified deadline	llai@ntu.edu.tw
6	2026/10/13	Cancer	Dr. Liang-Chuan Lai	Take-home exam with a specified deadline	
7	2026/10/20	Review Week (no class)	--		
8	2026/10/27	Midterm Exam	--		
9	2026/11/3	The Eukaryotic Cell Cycle	Dr. Hsiao-Chun Huang	Take-home exam with a specified deadline	hsiaochun@ntu.edu.tw
10	2026/11/10	Transcriptional Control of Gene Expression	Dr. Chuan Ku	Take-home exam with a specified deadline	chuanku@gate.sinica.edu.tw
11	2026/11/17	Post-Transcriptional Gene Control	Dr. Ho-Ming Chen	In-class exam on final exam date	homing@gate.sinica.edu.tw
12	2026/11/24	Protein Structure and Function	Dr. Lay-Sun Ma	Take-home exam with a specified deadline	laysunma@gate.sinica.edu.tw
13	2026/12/1	Signal Transduction	Dr. Ho-Ming Chen	In-class exam on final exam date	homing@gate.sinica.edu.tw
14	2026/12/8	Transmembrane Transport of Ions and Small Molecules	Dr. Ho-Ming Chen	In-class exam on final exam date	
15	2026/12/15	Review Week (no class)	--		
16	2026/12/22	Final Exam	--		