

TIGP Bioinformatics Program
Basic Molecular Biology I (B1)
Fall 2025 Syllabus

Latest syllabus: <https://idv.sinica.edu.tw/tigpbio/>

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.yihisient.com.tw/front/bin/ptdetail.phtml?Part=06585>
 Reference: (Recommended but not required)
 2. Molecular Biology of the Cell, 6th edition, 2014.
<http://www.yihisient.com.tw/front/bin/ptdetail.phtml?Part=06595&Rcg=53601>
 3. Molecular Biology: Principles of Genome Function, 2nd edition, 2014.
<http://www.yihisient.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/oK/vJzrx9Evybb19>
 (2) TIGP-BP Course Registration Consent Form
https://idv.sinica.edu.tw/tigpbio/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	2025/9/2 Online Only	Molecules, Cells, and Evolution	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline: ► 2025/9/8	uyang@nycu.edu.tw
2	2025/9/9 Online Only	Basic Molecular Genetic Mechanisms	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline: ► 2025/9/15	
3	2025/9/16 Online Only	Molecular Genetic Techniques	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline: ► 2025/9/22	
4	2025/9/23	Genes, Genomics, and Chromosomes	Dr. Liang-Chuan Lai	Take-home exam with a specified deadline: ► 2025/10/21	llai@ntu.edu.tw
5	2025/9/30	Transcriptional Control of Gene Expression	Dr. Chuan Ku	Take-home exam with a specified deadline: ► 2025/10/7	chuanku@gate.sinica.edu.tw
6	2025/10/7	Protein Structure and Function	Dr. Lay-Sun Ma	Take-home exam with a specified deadline: ► 2025/10/31	laysunma@gate.sinica.edu.tw
7	2025/10/14	Review Week (no class)	--		
8	2025/10/21	Midterm Exam (take-home exams, no in-class exam)	--		
9	2025/10/28 @B1 Auditorium	Post-Transcriptional Gene Control	Dr. Ho-Ming Chen	In-class exam on final exam date	homing@gate.sinica.edu.tw
10	2025/11/4	Biomembrane Structure and Transport	Dr. Ho-Ming Chen		
11	2025/11/11	Signal Transduction	Dr. Ho-Ming Chen		
12	2025/11/18 Online Only	Cellular Energetics	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline: ► 2025/12/2	uyang@nycu.edu.tw
13	2025/11/25 Online Only	The Eukaryotic Cell Cycle	Dr. Su-Chiung Fang	In-class exam on final exam date	scfang@gate.sinica.edu.tw
14	2025/12/2	Cancer	Dr. Liang-Chuan Lai	Take-home exam with a specified deadline: ► 2025/12/16	llai@ntu.edu.tw
15	2025/12/9	Review Week (no class)	--		
16	2025/12/16	Final Exam	--		