

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.yihscient.com.tw/front/bin/ptdetail.phtml?Part=06585>

Reference: (Recommended but not required)

2. Molecular Biology of the Cell, 6th edition, 2014.

<http://www.yihscient.com.tw/front/bin/ptdetail.phtml?Part=06595&Rcg=53601>

3. Molecular Biology: Principles of Genome Function, 2nd edition, 2014.

<http://www.yihscient.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/oK7vJzrx9EvybbT9>

(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	uyang@nycu.edu.tw
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	--		