

Advanced Microbiology (微生物學特論); 2025 Spring

Affiliated Programs

- TIGP-MBAS (AS-NCHU): Elective Core Course; NCHU course code: 8024 (listed under “Special Topics in Microbiology”).
- TIGP-BIODIV (AS-NTNU): Elective Course; NTNU course code: DID0003.
- TIGP-MCB (AS-NDMC): Elective Course; NDMC course code: 3024470.
- Plant Pathology and Microbiology (NTU): Elective Course; NTU course code: 633 U1480 PPM5082.

Course Information

- Coordinators
 - TIGP: Chih-Horng Kuo (郭志鴻); chk@gate.sinica.edu.tw; 02-2787-1127.
 - NTU: Li Chang (張立); lichang@ntu.edu.tw; 02-3366-4095.
- Assistant: Jennifer Wu (吳泓欣); mbastigp@gate.sinica.edu.tw; 02-2652-2928.
- Objectives: For students to understand the principles and potential applications of microbiology. The first part is organized by organisms and introduces the general biology of each group. The second part covers different fields of biology related to microbiology research. The third part consists of special topics, including those related to applied microbiology.
- This is a 3-credit graduate-level course conducted in English.
- Time: Tuesday 3-6 PM; 2-hour lecture & 1-hour discussion.
 - Generally: (1) key concept of the weekly topic, (2) research of the instructor as in-depth examples, (3) explanation of the homework and Q&A.
- Location: Room A236, Agricultural Biotechnology Building, Academia Sinica. May switch to online if required.
- Evaluation
 - Three homework assignments and one in-class oral presentation (25% each).
 - In the first week, each student selects three instructors for their assignments and one topic for oral presentation. The assignments are due one week after the selected lectures.
 - For homework assignments, each instructor will decide on the format and provide guidelines/expectations to the students during the discussion. The typical format is a ~2-5 pages essay on the assigned topic/paper. Other examples include but not limited to: (1) a practice review on one paper/preprint, and (2) a mini-proposal. Instructors should provide written or oral feedback to the students and email the scores to the coordinator within two weeks after the lecture.
 - Attendance is required but not scored. Students who missed three or more of the lectures will not receive the course credit, unless special permission from the course coordinator is granted.

Schedule

Week	Date	Topic	Instructor
1	2/18	Bacteria and archaea	Chih-Horng Kuo (郭志鴻) chk@gate.sinica.edu.tw
2	2/25	Viruses	I-Hsuan Wang (王宜萱) ihwang@ibms.sinica.edu.tw
3	3/04	Oomycetes	Chih-Hang Wu (吳志航) wuchh@gate.sinica.edu.tw
4	3/11	Plant microbiota	Ka-Wai Ma (馬家威) kawaim7@gate.sinica.edu.tw
5	3/18	Microalgae	Chuan Ku (顧銓) chuanku@gate.sinica.edu.tw
6	3/25	Evolution	Jun-Yi Leu (呂俊毅) ileu@gate.sinica.edu.tw
7	4/01	Physiology and metabolism	Yi-Lung Chen (陳宜龍) yilungchen@ntu.edu.tw
8	4/08	Bioinformatics and metagenomics	Yu-Wei Wu (吳育瑋) yuwei.wu@tmu.edu.tw
9	4/15	Quantitative biology	Jian-Geng Chiou (邱澗庚) jchiou@gate.sinica.edu.tw
10	4/22	Adaptive Immunity	Yang Cheng (鄭揚) ycheng@ibms.sinica.edu.tw
12	4/29	Fungi	Hiran Anjana Ariyawansa (歐海仁) ariyawansa44@ntu.edu.tw
11	5/06	Microbe-plant interactions	Lay-Sun Ma (馬麗珊) laysunma@gate.sinica.edu.tw
13	5/13	Symbiosis	Ko-Hsuan Chen (陳可萱) kohsuanchen@gate.sinica.edu.tw
14	5/20	Viral vectors	Li Chang (張立) lichang@ntu.edu.tw
15	5/27	Interbacterial interaction	See-Yeun Ting (陳詩允) syting@gate.sinica.edu.tw
16	6/03	In-class presentation	Chih-Horng Kuo (郭志鴻) chk@gate.sinica.edu.tw