

## Advanced Microbiology (微生物學特論); 2020 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

- Objectives: The objective of this course is to introduce the principles and the biotechnology application of microbiology. In the first part, the course is organized according to the taxonomic groups (e.g., bacteria, archaea, fungi, viruses, etc), and focuses on the general biology of each group. In the second part, different sub-fields of biology (e.g., genomics, evolution, physiology, ecology, molecular genetics, etc) related to microbiology research are discussed in details. The third part of this course emphasizes on the biotechnology applications of microbiology.
- Language: English.
- Time: Tuesday 2-5PM.
- Place: A236, Agricultural Biotechnology Building, Academia Sinica.
- Course coordinator: Chih-Horng Kuo (郭志鴻); [chk@gate.sinica.edu.tw](mailto:chk@gate.sinica.edu.tw); 02-2787-1127
- Evaluation: Homework (60%) and in-class participation (40%). The scores are provided by the lecturer for each week and averaged across the entire semester. There is no mid-term/final exam. Students who missed three weeks (or more) of the lectures will not receive the course credit, unless special permission from the course coordinator is granted.

## Schedule

Week	Date	Topic	Lecturer
1	3/3	Bacteria and archaea	Chih-Horng Kuo (郭志鴻) <a href="mailto:chk@gate.sinica.edu.tw">chk@gate.sinica.edu.tw</a>
2	3/10	Fungi	Wei-Chiang Shen (沈偉強) <a href="mailto:wcshe@ntu.edu.tw">wcshe@ntu.edu.tw</a>
3	3/17	Viruses	Na-Sheng Lin (林納生) <a href="mailto:nslin@gate.sinica.edu.tw">nslin@gate.sinica.edu.tw</a>
4	3/24	Molecular genetics	Yen-Ping Hsueh (薛雁冰) <a href="mailto:pingsueh@gate.sinica.edu.tw">pingsueh@gate.sinica.edu.tw</a>
5	3/31	Secretion systems	Nai-Chun Lin (林乃君) <a href="mailto:nlin@ntu.edu.tw">nlin@ntu.edu.tw</a>
6	4/7	Evolution	Jun-Yi Leu (呂俊毅) <a href="mailto:jleu@gate.sinica.edu.tw">jleu@gate.sinica.edu.tw</a>
7	4/14	Omics	Chuan Ku (顧銓) <a href="mailto:chuanku@gate.sinica.edu.tw">chuanku@gate.sinica.edu.tw</a>
8	4/21	Bioinformatics	Yu-Wei Wu (吳育瑋) <a href="mailto:yuwei.wu@tmu.edu.tw">yuwei.wu@tmu.edu.tw</a>
9	4/28	Microbe-plant interactions	Lay-Sun Ma (馬麗珊) <a href="mailto:laysunma@gate.sinica.edu.tw">laysunma@gate.sinica.edu.tw</a>
10	5/5	Cell biology	Chao-Wen Wang (王昭雯) <a href="mailto:cwwang02@gate.sinica.edu.tw">cwwang02@gate.sinica.edu.tw</a>
11	5/12	Microbial physiology and metabolism	Yin-Ru Chiang (江殷儒) <a href="mailto:yinru915@gate.sinica.edu.tw">yinru915@gate.sinica.edu.tw</a>
12	5/19	Microbe-microbe interactions	Erh-Min Lai (賴爾珉) <a href="mailto:emlai@gate.sinica.edu.tw">emlai@gate.sinica.edu.tw</a>
13	5/26	Microbial ecology	Sen-Lin Tang (湯森林) <a href="mailto:sltang@gate.sinica.edu.tw">sltang@gate.sinica.edu.tw</a>
14	6/2	Ecological genomics	Isheng Jason Tsai (蔡怡陞) <a href="mailto:ijtsai@gate.sinica.edu.tw">ijtsai@gate.sinica.edu.tw</a>
15	6/9	Viral vectors and biotechnology applications	Hsin-Hung Yeh (葉信宏) <a href="mailto:hyeh@sinica.edu.tw">hyeh@sinica.edu.tw</a>
16	6/16	Microbial inoculants for agriculture: principle, market and application	Chi-Te Liu (劉啟德) <a href="mailto:chiteliu@ntu.edu.tw">chiteliu@ntu.edu.tw</a>
17	6/23	Bioenergy	Daryi Wang (王達益) <a href="mailto:dywang@gate.sinica.edu.tw">dywang@gate.sinica.edu.tw</a>
18	6/30	Final exam week; no class	NA