

107 學年第二學期 微生物學實驗課程

教師：Dr. Chung-Yu Lan (藍忠昱), cylan@life.nthu.edu.tw LS-I 405 ext. 42473

Dr. Mou-Chieh Kao (高茂傑), mckao@life.nthu.edu.tw LS-I 307 ext. 42472

Dr. Hsien-Sheng Yin (殷獻生), hsyin@life.nthu.edu.tw LS-II 320 ext. 42469

助教：黃詩婷 sthuang@life.nthu.edu.tw LS-II 328C ext.35859

宋秋嫻 cssong@life.nthu.edu.tw LS-II 328C ext.35859

時間：Thursday, 2:20 pm ~ 6:10 pm

地點：生科二館 321 室(LSII-321)

課程表 (Syllabus)：

Week/ Date		Topics	Instructors
1	2/21	Check-in & Organization (1) finger-touching experiment (2) collection of soil sample Aseptic technique & Microscopy (1) Streak/Plating Plates and liquid culture inoculation	Lan
2	3/7	Electron microscopy (I) (1) TEM and SEM introduction (2) SEM sample preparation (3) Sample examination & size measurement	Lan
3	3/14	Electron microscopy (II) Bacterial and yeast morphology by SEM	Lan
4	3/21	Bacterial staining (1) Simple staining (2) Gram staining (3) Negative staining (4) Spore staining	Lan
5	3/28	<u>The 1st report due</u> Bacterial growth (1) Evaluation of bacterial growth by measuring turbidity (2) Serial dilution-agar spread plating procedure to quantitate viable bacterial cells	Kao
6	4/11	Bacterial biochemical activities (1) Urease Test (2) Catalase test (3) Oxidase test Extracellular enzymatic activities (4) Starch Hydrolysis test (5) Casein Hydrolysis test (6) IMViC test	Kao
7	4/18	API (Analytical profile index) 20E	Kao

8	4/25	The bacterial viruses: bacteriophages (1) Cultivation & enumeration of bacteriophages (2) Isolation of coliphages from water	Kao
9	5/2	Microbiology of food (1) Yoghurt (2) Water test	Kao
10	5/9	The 2nd report due Antimicrobial activity in Chemical agents and Plant derived products	Yin
11	5/16	Competent Cells Preparation & Transformation Blue/White Screening: pGEM-T vector	Yin
12	5/23	Plasmid Extraction (Boiling lysis mini-prep) & Commerical mini-Prep purification Chicken Embryo Inoculation	Yin
13	5/30	HA (Hemagglutination) & HI (Hemagglutination Inhibition) tests new castle disease virus (NDV) 5% suspension of chicken RBC	Yin
14	6/6	The 3rd report due Final examination Clean & Check out	Lan 、 Kao 、 Yin

備註：微生物實驗課，大多數的課程皆需隔日觀察實驗結果。