

111 學年第二學期 微生物學實驗課程

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時間：Thursday, 2:20 pm ~ 6:10 pm (R6R7R8R9)

地點：生科二館 321 室(LSII-321)

課程表 (Syllabus)：

Week/ Date		Topics	Instructors
1	2/16	Check-in & Organization (1) finger-touching experiment (2) collection of soil sample	Lan
2	2/23	Aseptic technique & Microscopy (1) Streaking, spread plates and liquid culture inoculation	Lan
3	3/2	Electron microscopy (I) (1) TEM and SEM introduction (2) Sample preparation for SEM	Lan
4	3/9	Electron microscopy (II) (1) Bacterial and yeast morphology by SEM (2) Sample examination & size measurement	Lan
5	3/16	Bacterial staining (1) Simple staining (2) Gram staining (3) Negative staining (4) Spore staining	Lan
6	3/23	<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
7	3/30	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

8	4/13	API (Analytical profile index) 20E	Kao
9	4/20	The bacterial viruses: bacteriophages (1) Cultivation & enumeration of bacteriophages (2) Isolation of coliphages from water	Kao
10	4/27	Microbiology of food (1) Yoghurt (2) Water test	Kao
11	5/4	The 2nd report due Antimicrobial activity in Chemical agents and Plant derived products	Yin
12	5/11	Competent Cells Preparation & Transformation Blue/White Screening: pGEM-T vector	Yin
13	5/18	Plasmid Extraction (Boiling lysis mini-prep) & Commercial mini-Prep purification Chicken Embryo Inoculation	Yin
14	5/25	HA (Hemagglutination) & HI (Hemagglutination Inhibition) tests 5% suspension of chicken RBC	Yin
15	6/1	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。