

112 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	2/22	Check-in & Organization (1) finger-touching experiment (2) collection of soil sample	Lan
2	2/29	Aseptic technique & Microscopy (1) Streaking, spread plates and liquid culture inoculation	Lan
3	3/7	Electron microscopy (I) (1) TEM and SEM introduction (2) Sample preparation for SEM	Lan
4	3/14	Electron microscopy (II) (1) Bacterial and yeast morphology by SEM (2) Sample examination & size measurement	Lan
5	3/21	Bacterial staining (1) Simple staining (2) Gram staining (3) Negative staining (4) Spore staining	Lan
6	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
7	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

8	4/18	API (Analytical profile index) 20E	Kao
9	4/25	The bacterial viruses: bacteriophages (1) Cultivation & enumeration of bacteriophages (2) Isolation of coliphages from water	Kao
10	5/2	Microbiology of food (1) Yoghurt (2) Water test	Kao
11	5/9	The 2nd report due Antimicrobial activity in Chemical agents and Plant derived products	Yin
12	5/16	Competent Cells Preparation & Transformation Blue/White Screening: pGEM-T vector Chicken Embryo Inoculation	Yin
13	5/23	Plasmid Extraction (Boiling lysis mini-prep) & Commercial mini-Prep purification	Yin
14	5/30	HA (Hemagglutination) & HI (Hemagglutination Inhibition) tests 5% suspension of chicken RBC	Yin
15	6/6	The 3rd report due Final examination Clean & Check out	Lan、Kao、 Yin

備註 1: 微生物實驗課，**大多數的課程**皆需**隔日**觀察實驗結果。

備註 2: 基於透明與負責任的原則，本課程鼓勵學生利用 AI 進行協作或互學，以提升本門課產出品質。根據本校公布之佈的「大學教育場域 AI 協作、共學與素養培養指引」，本門課程採取有條件開放，請註明如何使用生成式 AI 於作業或報告，說明如下

- 學生可於課堂作業或報告中的「標題頁註腳」或「引用文獻後」簡要說明如何使用生成式 AI 進行議題發想、文句潤飾或結構參考等使用方式。然而，在本課程的「個人反思報告」、「小組採訪作業」中，學生不得使用生成式 AI 工具撰寫作業。若經查核使用卻無在作業或報告中標明，教師、學校或相關單位有權重新針對作業或報告重新評分或不予計分。
- 本門課授課教材或學習資料若有引用自生成式 AI，教師也將在投影片或口頭標注。
- 修讀本課程之學生於選課時視為同意以上倫理聲明。