

處理學期(Current Semester)：1092

請尊重智慧財產權，請勿非法影印

1092學期所開設課程『生物技術學』的課程內容

課程代碼(Course Number)	B3A0347N
授課老師(Instructor)	吳彰哲(Chang-Jer Wu)
中文課名(Chinese Course Title)	生物技術學
英文課名(English Course Title)	Biotechnology
開課年班(Grade and Class)	3A
選課人數(Quantity)	53
選課類別(Course Type)	必修(Required Course)
上課時間(Course Meeting Days/Times)	302,303,304
上課地點(Classroom)	未定
開課系所(Department/Institute Office of Course)	食品科學系生物科技組(Food Science, Division of B.
學分(Credit(s))	3
人數上限(Maximum Number of Students)	65
開課期別(Course Type)	單學期(semester course)
是否實習	否
備註(Note)	食科系甲子廳上課.

課程綱要

教學目標 Objective	中文 English	簡介生物技術的發展、原理。 The aim of the class is to introduce upper level undergraduate students to the main theoretical concepts and experimental designs in biotechnology. Specific course aims include: (1) an introduction of the basic concepts and issues in biotechnology, (2) development of techniques and data analysis, (3) develop skills in protein production, purification and characterization, and (4) develop an understanding of the application of these techniques in medicine and the agriculture.
先修科目 Pre Course	中文 English	充實生物化學和分子生物知識 biochemistry and molecular biology
教材內容 Outline	中文 English	1.生物技術發展史 2.基因操作原理 3.生物技術的應用 4.生物技術的最新發展 This course is designed to introduce students to areas and concepts involved in Biotechnology that is a rapidly booming field, marked by powerful techniques and significant social and scientific impact. Techniques introduced should lead students understand how to take the advantages of such powerful tools on their own researches or careers in the future, especially as those pertain to medicine, agriculture, and the environment. In addition, students' knowledge with respect to biology, biochemistry, and
教學方式 Teaching Method	中文 English	講解和問答
參考書目 Reference	中文 English	Richard J. Reece, "Analysis of Genes and Genomes", John Wiley

教學進度	中 文	1. Introduction (DNA: structure and function) 2. Basic techniques I 3. Basic techniques II 4. Vectors 5. Polymerase chain reaction 6. Gene cloning I 7. Gene cloning II 8. Gene identification 9. Creating mutations 10. Protein production and purification I 11. Protein production and purification II 12. Genome sequencing 13. Post-genome analysis 14. Engineering plants 15. Engineering animal cells 16. Engineering animal
------	-----	--

Syllabus	English	
評量方式	中 文	測驗和報告
Evaluation	English	tests and reports
參考網址		