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『基礎食品工程學』的課程內容

課程代碼(Course Number)	B3901121
授課老師(Instructor)	張克亮(Ke-Liang Chang)
中文課名(Chinese Course Title)	基礎食品工程學
英文課名(English Course Title)	Fundamental Food Engineering
開課年班(Grade and Class)	1A
選課人數(Quantity)	94
選課類別(Course Type)	必修(Required Course)
上課時間(Course Meeting Days/Times)	308,309,310
上課地點(Classroom)	MFS001,MFS001,MFS001
開課系所(Department/Institute Office of Course)	食品科學系食品科學組(Food Science, Division of Fo
學分(Credit(s)) 3	時數(Course Hour(s)) 3
人數上限(Maximum Number of Students) 100	人數下限(Minimum Number of Students) 10
開課期別(Course Type)	單學期(semester course)
是否實習	否
備註(Note) 和生物科技組合上.	

課程綱要

教學目標 Objective	中 文	介紹重要之工程概念在食品科學上之應用。
	English	To introduce the applications of important engineering principles in food science.
先修科目 Pre Course	中 文	物理、化學
	English	
教材內容 Outline	中 文	為食品工程學之入門課程，介紹重要之工程概念在食品科學上之應用。由單位換算、熱力學簡介開始，包括流體食品的流動、食品加工使用之能源、熱傳、熱加工、無菌加工及包裝、冷凍系統、食品之冷凍、蒸發、溼度學、質傳、食品之乾燥、工廠設計簡介等主要部份。
	English	This is an introductory course in Food Engineering. The course objective is to farmiliarize the students with the applications of important engineering principles in food science. Lecture topics include engineering units and dimensions, thermodynamics, fluid flow in food processing, energy for food processing, heat transfer in food processing, preservation processes, refrigeration, food freezing, evaporation, psychrometries, mass transfer, membrane separation, and dehydration.
教學方式 Teaching Method	中 文	課堂講解、例題示範、隨堂測驗、期中考、期末考
	English	Course lectures, examples, quizzes, Mid-term and final exams.
參考書目 Reference	中 文	R. P. Singh and D. R. Heldman, 2001. Introduction to Food Engineering. 3rd Edition, Academic Press, San Diego.
	English	R. P. Singh and D. R. Heldman, 2001. Introduction to Food Engineering. 3rd Edition, Academic Press, San Diego.
教學進度	中 文	1. 食品工程簡介。 2. 單位換算與重要概念。 3. 流體食品的流動。4. 食品加工使用之能源。5. 熱傳。6.質傳。7. 熱殺菌加工。8. 無菌加工。9. 冷凍系統、食品之冷凍。10. 蒸發。11. 溼度學及食品之乾燥等主要部份

Syllabus	English	1. Intrduction to Food Engineering 2. Engineering Units and Dimensions, Thermodynamics 3. Fluid Flow in Food Processing 4. Energy for Food Processing 5. Heat Transfer in Food Processing 6. Preservation Processes 8. Refrigeration 9. Food Freezing 10. Evaporation 11. Psychrometries 12. Mass Transfer 13. Membrane Separation 14. Dehydration
評量方式	中 文	期中考試 30 %期末考試 30 % 隨堂考試及作業等 30% 課程參予 10%
Evaluation	English	Mid-term Exam: 30% Final Exam: 40% Quizzes and Homeworks: 20% Class Participation: 10%

參考網址
無