

朝陽科技大學 097學年度第1學期教學大綱
Environmental Biotechnology 環境生技

當期課號	7493	Course Number	7493
授課教師	王順成	Instructor	WANG,SHUN CHENG
中文課名	環境生技	Course Name	Environmental Biotechnology
開課單位	生化科技產業研發碩士專班(碩春)一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	讓學生瞭解利用環境生物技術和奈米技術解決環境之問題之程序，課程包括基礎環境生物學、生物動力學，環境生物有氧及無氧狀態處理，微生物於生物復育之利用、生物技術於固體廢棄物、固體懸浮液、廢水處理、廢水之病原菌處理、農業廢棄物處理等應用。	Objectives	The aim of this course used the biotechnology and nanotechnology to help student to understand basic process in solving some of environmental problems. The content of this course include basics of microbiology and microbial kinetics, aerobic treatment, anaerobic treatment, microbial bioremediation use, composting and solid waste management, sewage and wastewater treatment, Methods for water-borne pathogens, agricultural waste.
教材	自編講義,並使用電腦投影片教學 1. Environmental Biotechnology: Principles and Application, Rittmann and McCarty, McGraw-Hill international editions, 2001 2. 環工生物處理程序(自訂教材) 3. An introduction to environmental biotechnology. Milton Wainwright 2006 Kluwer Academic publishers	Teaching Materials	handout, powerpoint, and presentation 1. Environmental Biotechnology: Principles and Application, Rittmann and McCarty, McGraw-Hill international editions, 2001 2. 環工生物處理程序(自訂教材) 3. An introduction to environmental biotechnology. Milton Wainwright 2006 Kluwer Academic publishers
成績評量方式	期中及期末考各乙次 各佔總成績 50%	Grading	middle exami. 50% final exami. 50%
教師網頁	-		
教學內容	1. Bioremediation 2. composting and solid waste management 3. sewage and wastewater treatment 4. Novel trend in biological wastewater treatment 5. environmental biotechnology in agriculture 6. Environmental biotechnology utilizes microorganisms to improve environmental quality. This course introduces the basic principles and application of environmental biotechnology. The basic principles include basics of microbiology and microbial kinetics. The topics of application are aerobic treatment, anaerobic treatment and bioremediation. 7. 針對國內之環境生技有關奈米技術應用之產業,由教師作一詳盡的產業介紹。	Syllabus	1. Bioremediation 2. composting and solid waste management 3. sewage and wastewater treatment 4. Novel trend in biological wastewater treatment 5. environmental biotechnology in agriculture 6. Environmental biotechnology utilizes microorganisms to improve environmental quality. This course introduces the basic principles and application of environmental biotechnology. The basic principles include basics of microbiology and microbial kinetics. The topics of application are aerobic treatment, anaerobic treatment and bioremediation. 7. 針對國內之環境生技有關奈米技術應用之產業,由教師作一詳盡的產業介紹。

尊重智慧財產權，請勿非法影印。