朝陽科技大學 098學年度第2學期教學大綱
Special Topics in Applied Microbiology 應用微生物特論

當期課號	7671	Course Number	7671
授課教師	張清安	Instructor	CHANG,CHIN AN
中文課名	應用微生物特論	Course Name	Special Topics in Applied Microbiology
開課單位	應用化學系碩士在職專班一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	本課程之目的在於提供瞭解的理論、背景與應用，一般而言，人們大都會將微生物視爲不潔的、可怕的，它們無所不在也是肉眼所看不見的微小生物（註：肉眼不能看小於100um的物體，即0.01cm）；這些生物由於體型很小而必需藉助放大工具(如顯微鏡)來觀察，由於其工業應用潛力，本課程特別強調的是真核細胞之放線菌與真菌兩類，由於上課時數之限制，本課程將不涵蓋微生物之基因工程與重組DNA技術，此部份學生可藉由參與本系之專題討論以獲取相關資訊。	Objectives	This course, named as Speecial Topics on Applied Microbiology, will be designed to provide an appropriate balance between microbilogical fundamentals and potential applications. The overall theme of this course is the relationship betweeen microbes and our lifes. The relationship involved not only the harmful effects of certain microorganisms but also their beneficial effects. In the course, we primarily concentrate on actinomyces and fungi bacause of their potential applications in industry. Due to time limitations, microbial genetics and recombinant DNA technology will not be covered in the class, however, students themselves are urged to gain wider microbiological background through the attendance in the microbiology-related seminar.
教材	自編教材. 參考資料: 1.D.B.Berry ed. (1988): Physiology of industrial fungi. Blackwell Scientific Publications. 2.David H. Griffin (1994): Fungal physiology, 2nd. Ed.. Wiley-Liss 3.病毒學概論。 楊繼江編著。2001. 藝軒出版社。	Teaching Materials	1.D.B.Berry ed. (1988): Physiology of industrial fungi. Blackwell Scientific Publications. 2.David H. Griffin (1994): Fungal physiology, 2nd. Ed.. Wiley-Liss
成績評量方式	測驗（50%）、平時成績（作業、出席與討論）（50%）	Grading	Quiz (50%)、class performance (attendance and participation) (50%)
教師網頁			
教學內容	1. 細菌結構 2. 細菌多樣性 3. 人與細菌之協調 4. 細菌代謝產物之應用 5. 細菌在基因工程的應用 6. 真菌之分類,育種與培養 7.真菌在生化科技之應用 8.病毒的定義與起源 9.病毒之型態構造與組成 10.病毒之物理、化學與生物特性 11.病毒之分類 12.病毒感染之機制 13.病毒之傳播與生態 14.病毒之診斷、鑑定與偵測 15.病毒病害之防治 16.病毒在生物科技上之應用	Syllabus	1. Bacteria structure 2. Bacteria diversity 3. The regulation of human and bacteria 4. Application of bacteria metabolic products 5. Application of bacteria in gene Engineering 6.Structure and cultivation of molds 7.Application of molds metabolic products in biotechnology 8.Definition of viruses and their origin. 9.Morphology, composition and construction of viruses. 10.Physical, chemical and biological properties of viruses. 11.Taxonomy of viruses. 12.Mechanism of infection of viruses. 13.How viruses transmit. 14.Diagnosis, identification and detection of viruses.

			15.Control of virus diseases. 16. Application of viruses as a tool in biotechnology.