



課 綱 Course Outline

海洋生物研究所碩士班生物科技組

中文課程名稱 Course Name in Chinese	環境微生物特論				
英文課程名稱 Course Name in English	Special Topics on Environmental Microorganism				
科目代碼 Course Code	MBT_53600	班 別 Degree	碩士班 Master' s		
修別 Type	選修 Elective	學分數 Credit(s)	2.0	時 數 Hour(s)	2.0
先修課程 Prerequisite					
課程目標 Course Objectives					
微生物是我們所處環境中極重要的一份子，並具有在大自然中扮演分解者的角色，本課程希望同學得到有關環境微生物的基本知識，瞭解不同環境下微生物的分佈情形，以便將來應用微生物至環境污染處理的實務上。					
系教育目標 Dept.' s Education Objectives					
1	培育海洋生命科學領域之研究人才 Nurture an international outlook of marine biotechnology research talent.				
2	培養基礎理論與應用研究兼備之人才 Cultivation of biotechnology industry specific skills and research talent.				
3	培養具國際觀之海洋生物科技研究人才 Cultivation of marine life sciences research talent.				
4	培養生物科技產業所需之技術或研究人才 Basic training in both theory and applied research talent.				
5	培養團隊合作能力之研究人才 Develop teamwork skills of research talent.				
系專業能力 Basic Learning Outcomes				課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.' s Education Objectives	
A	具備海洋生命科學的基礎知識 Basic knowledge of marine life science is needed.				
B	具備獨立、創新及執行研究的能力 Independent innovation and the research ability are needed.				

C	具備邏輯思考、問題分析與問題解決的能力 Logical thinking, problem analysis and problem-solving abilities are needed.	
D	具備領導、溝通協調與團隊合作的能力 Good team communication, coordination and leadership skills are needed.	
E	具備國際視野以及外語溝通的能力 International vision and ability to communicate in foreign languages.	
F	善用資訊科技進行資訊蒐集、資料分析與統整 Use of information technology for information collection, analysis and integration.	
G	對於學術倫理及專業倫理有正確的認知與堅持 For professional ethics and academic responsibility have a correct understanding and persistence.	

圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated

課程大綱 Course Outline

1. Introduction to Environmental Microbiology
2. An Overview of Microbial Life
3. Cell Structure/Function
4. Nutrition, Laboratory Culture, and Metabolism of Microorganisms
5. Microbial Growth
6. Aquatic Microbiology
7. Marine Microbiology
8. Wastewater Microbiology
9. Biodegradation Microbiology
10. Molecular Approaches for the Measurement of Microbial Diversity
11. Final Report

資源需求評估（師資專長之聘任、儀器設備的配合．．．等）
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods

其他 Miscellaneous