



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	海洋學				
英文課程名稱 Course Name in English	Oceanography				
科目代碼 Course Code	MBE_57890	班 別 Degree	碩士班 Master' s		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
使學生瞭解各種海域常見之污染因子以及海洋動物對污染物之容忍能力，進一步評估海洋汙染對海洋動物生理上之影響與傷害。					
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

週次 授課內容

1. Introduction
2. Open ocean- Phytoplankton
3. Algal blooms
4. Open ocean- Zooplankton
5. Open ocean- Fish & mammals
6. Benthic organisms
7. Ocean chemistry- C and N cycles
8. Temperature, salinity, pH and nutrients
9. Ocean acidification
10. 期中考試週Midterm Seminar
11. Circulation of the ocean
12. Waves and tides
13. Typhoons, El Nino and La Nina
14. Ocean basins: Earth structure and plate tectonics
15. Ocean floor topography
16. Invited speaker
17. Invited speaker
18. 期末考試週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.)

場地與設備：國立海洋生物博物館提供
師資：國立海洋生物博物館研究人員及校外相關專業教授

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

本課程將介紹生物、化學、物理、及地質等四大方面的海洋學基礎知識，並增加如全球暖化、海洋酸化、赤潮、及塑膠微粒污染等議題。教學方式將以Power Point與多媒體輔助進行課堂授課、學生的文章共讀及課堂報告

其他
Miscellaneous