



## 課 綱 Course Outline

### 海洋生物研究所碩士班生物多樣性及演化組

中文課程名稱 Course Name in Chinese	海域環境調查與實務				
英文課程名稱 Course Name in English	Sampling techniques of Marine Environmental Investigation				
科目代碼 Course Code	MBE_57880	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					
使學生熟悉海洋環境調查所使用設備與儀器之操作方法，進一步評估海洋汙染對海洋生態之影響。					
系教育目標 Dept.' s Education Objectives					
1	研究具有本土特色與國際競爭優勢的海洋生物多樣性及演化課題 Studying the topics of marine biodiversity and evolution with both local and international significance.				
2	培養具備海洋生物多樣性知識與研發能力以及國際觀的專業人才 Training professionals with knowledge, research capability, and global perspective in marine biodiversity.				
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	培養海洋生物多樣性及演化的認知及專業能力。 Professional knowledge and skills in marine biodiversity and evolution research.				
B	具備海洋生態保育及環境保護的概念。 Concepts of conservation of marine ecology and environment.				
C	具備獨立思考邏輯思辨及問題解決能力。 Capability of thinking independently and logically and solving problems.				
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	Marine environment and ecosystem
3	Pollutants in the marine environment
4	Nonbiodegradable Pollutants
5	Biodegradable Pollutants, Nutrients
6	Environmental Sampling and Analysis for Technicians-Niskin Bottle
7	Environmental Sampling and Analysis for Technicians-CTD and BOD
8	Environmental Sampling and Analysis for Technicians-DO & pH
9	Environmental Sampling and Analysis for Technicians-N, P, Si and Chl a
10	Continuous, Real-Time Water Quality Monitoring System
11	Practical Operation before Internship at sea: measurement of DO & pH in aquatic husbandry
12	Practical Operation before Internship at sea: measurement of nutrients (ammonia, nitrite and nitrate) in aquatic husbandry
13	Internship at sea
14	Internship at sea
15	Internship at sea
16	Internship at sea
17	Statistics and Data Analysis
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	
本課程由海洋環境及生態生理專長領域教師合開課程，主軸為介紹海洋環境調查的各種樣品採集方式及現場使用之設備與儀器，進一步評估海洋汙染對海洋生態之影響。 教學方式將以老師以Power Point與多媒體輔助進行課堂授課、學生的實際實驗操作與分析。	
其他 Miscellaneous	
期末報告Final Report: 50 % 海上實習 Internship at sea: 30% 其他Miscellaneous: 20%	