國立東華大學

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	海洋分析化學				
英文課程名稱 Course Name in English	Marine Analytical Chemistry				
科目代碼 Course Code	MBE_57600	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

使學生熟悉海水的採集方式及分析方法並達成品保與品管之目標

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

1. Introduction ; Sampling techniques, Samples Preparation

2. QA/QC : Accuracy & Precision ; Detection limits
3. Temperature & Salinity
4. Dissolved oxygen(Winkler titration & Redox potential methods) ; Solubility saturation & Apparent oxygen utilization(AOU)
5. Biochemical oxygen demand(BOD)
6. Chemical oxygen demand(COD)
7. pH, Alkalinity & Total carbon dioxides
8. Basic spectrophotometry
9. Determination of nitrite-N & nitrate-N
10. Determination of phosphate-P
11. Determination of silicate-Si
12. Principle of flow injection analysis (FIA) & Analysis of sulfate
13. Potosynthetic pigments (Fluorometry & Analysis of spectrophotometry) Primary productivity

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