

 國立東華大學
教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	海洋分析化學			學年/學期 Academic Year/Semester	113/2
課程名稱(英文) Course Name in English	Marine Analytical Chemistry				
科目代碼 Course Code	MBE_57600	系級 Department & Year	碩士	開課單位 Course-Offering Department	海洋生物研究所
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)		3.0/3.0	
授課教師 Instructor	/孟培傑				
先修課程 Prerequisite					
課程描述 Course Description					
實作與理論並行，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。					
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。					
圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated					
授 課 進 度 表 Teaching Schedule & Content					
週次Week	內容 Subject/Topics				備註Remarks
1	1. Introduction ; Sampling techniques, Samples Preparation				
2	2. QA/QC : Accuracy & Precision ; Detection limits				
3	3. Temperature & Salinity				
4	4. Dissolved oxygen(Winkler titration & Redox potential methods) ; Solubility saturation & Apparent oxygen utilization(AOU)				
5	5. Biochemical oxygen demand(BOD)				
6	6. Chemical oxygen demand(COD)				
7	7. pH, Alkalinity & Total carbon dioxides				
8	8. Basic spectrophotometry				
9	期中考試週 Midterm Exam				

10	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) 14. Primary productivity	
11	9. Determination of nitrite-N & nitrate-N	
12	10. Determination of phosphate-P	
13	11. Determination of silicate-Si	
14	12. Principle of flow injection analysis (FIA) & Analysis of sulfate	
15	13. Potosynthetic pigments (Fluorometry & Analysis of spectrophotometry)	
16	14. Primary productivity	
17	14. Heavy metals	
18	期末考試週 Final Exam	

教學策略 Teaching Strategies

- ☐ 課堂講授 Lecture ☐ 分組討論 Group Discussion ☐ 參觀實習 Field Trip
- ☐ 其他 Miscellaneous:

教學創新自評 Teaching Self-Evaluation

創新教學 (Innovative Teaching)

- ☒ 問題導向學習 (PBL) ☒ 團體合作學習 (TBL) ☒ 解決導向學習 (SBL)
- ☐ 翻轉教室 Flipped Classroom ☐ 磨課師 Moocs

社會責任 (Social Responsibility)

- ☒ 在地實踐 Community Practice ☒ 產學合作 Industry-Academia Cooperation

跨域合作 (Transdisciplinary Projects)

- ☒ 跨界教學 Transdisciplinary Teaching ☐ 跨院系教學 Inter-collegiate Teaching

- ☐ 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

學期成績計算及多元評量方式 Grading & Assessments									
配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績(含出缺席) General Performance (Attendance Record)	20%								
期中考成績 Midterm Exam	20%								
期末考成績 Final Exam	20%								
作業成績 Homework and/or Assignments	30%								
其他 Miscellaneous (_____)	10%								
評量方式補充說明 Grading & Assessments Supplemental instructions									
教科書與參考書目(書名、作者、書局、代理商、說明) Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)									
課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址) Teaching Aids & Teacher's Website(Including online teaching information. Personal website can be listed here.)									
其他補充說明 (Supplemental instructions)									