



教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	進階綜合生物科學		學年/學期 Academic Year/Semester	114/1
課程名稱(英文) Course Name in English	Advanced Integrative Biological Sciences			
科目代碼 Course Code	MBT_56730	系級 Department & Year	碩士	開課單位 Course-Offering Department
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)	3.0/3.0	
授課教師 Instructor	/呂美津			
先修課程 Prerequisite				

課程描述 Course Description

本課程將藉由講解現今相關的生物技術實驗與儀器的原理，以及在海洋生物學研究上的應用。讓本組學生不僅能培育學生了解實驗操作原理，更可讓學生具備有多元化且執行研究分析的能力。

課程目標 Course Objectives

本課程之教學目標是讓就讀海洋生物研究所生物科技組的學生得以更加認識了解生物科學的重要學理背景，藉由多元化面向的講授課程來強化本組學生在進行研究時所需的必要背景知識，以做為探討生命科學奧妙的重要根基。期許本組學生能以學理知識為基礎，並能結合生物技術的操作與應用，訓練孕育學生具備有理論與實務兼具之能力。

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

授課進度表 Teaching Schedule & Content

週次 Week	內容 Subject/Topics	備註 Remarks
1	Flow Cytometry: Workshop	https://meet.google.com/aam-dbsj-aeef
2	Flow Cytometry: Illustration of the Application for Marine Biology	https://meet.google.com/aam-dbsj-aeef
3	Flow Cytometry: On-site Practice	https://meet.google.com/aam-dbsj-aeef

4	Real-time PCR: Workshop	
5	Real-time PCR: Illustration of the Application for Marine Biology	
6	Real-time PCR: On-site Practice	
7	Optical Microscopy: Workshop	
8	Optical Microscopy: Illustration of the Application for Marine Biology	
9	期中考試週 Midterm Exam	
10	Optical Microscopy: On-site Practice	
11	Fluorescent Microscopy: Workshop	
12	Fluorescent Microscopy: Illustration of the Application for Marine Biology	
13	Fluorescent Microscopy: On-site Practice	
14	Electron Microscopy: Workshop	
15	Electron Microscopy: Illustration of the Application for Marine Biology	
16	Electron Microscopy: On-site Practice	
17	Lipid Extraction and Content Analysis: Workshop	
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	30%		✓						
期末考成績 Final Exam	50%		✓						
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									

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.)

<https://meet.google.com/aam-dbsj-aej>

其他補充說明 (Supplemental instructions)