



教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	海洋學		學年/學期 Academic Year/Semester	112/1
課程名稱(英文) Course Name in English	Oceanography			
科目代碼 Course Code	MBE_57890	系級 Department & Year	碩士	開課單位 Course-Offering Department
修別 Type	必修 Required	學分數/時間 Credit(s)/Hour(s)	3.0/3.0	
授課教師 Instructor	/劉弼仁/謝泓諺			
先修課程 Prerequisite				
課程描述 Course Description				
<p>廣泛介紹海洋知識，以海洋生物為主，但涵蓋基礎海洋物理、海洋化學、與海洋地質，(並透過校外教學實地了解海洋學，是疫情狀況)。</p> <p>Introduce marine science, focusing on marine biology, but cover basic marine physics, chemistry, and geology.</p> <p>text book: Oceanography: An Invitation to Marine Science 9e</p> <p>The course will start on 9/11 (Monday) 13:00-16:00</p> <p>Please read the chapter 1 first, there is a test before the course start. (Every week have a test before the course start, so you need to preview the subject each week)</p>				
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，進一步評估海洋污染對海洋動物生理上之影響與傷害。				
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	Introduction			
2	Open ocean- Zooplankton			
3	Climate change and the Ocean - Blue Carbon			
4	Invitation Lecture			
5	Marine microbiology			
6	Open ocean-Phytoplankton			
7	Algal blooms			
8	Marine chemistry			
9	期中考試週 Midterm Exam			
10	Diversity of Marine Vertebrates			
11	Fishery			
12	Typhoons, El Niño and La Niña			

13	Invitation Lecture - Physical oceanography	
14	Climate change and the Ocean - Ocean Acidification	
15	Climate change and the Ocean - Ocean Deoxygenation	
16	Climate change and the Ocean - Ocean Warming	
17	Invitational Lecture - Marine Geology	
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 General Performance	10%	✓	✓	✓					
期中考成績 Midterm Exam	30%	✓							
期末考成績 Final Exam	30%	✓							
作業成績 Homework and/or Assignments	30%	✓	✓						
其他 Miscellaneous (_____)									

評量方式補充說明

Grading & Assessments Supplemental instructions

每周課前預習測驗、作業、期中考、期末考

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.)

- (1) Oceanography: An Invitation to Marine Science, 9th Edition. by Tom S. Garrison
- (2) 台灣區域海洋學 (二版) 詹森主編

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)