



教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	生物資訊學		學年/學期 Academic Year/Semester	114/1
課程名稱(英文) Course Name in English	Introduction to bioinformatics			
科目代碼 Course Code	MBT_50700	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)	2.0/2.0	
授課教師 Instructor	/郭傑民			
先修課程 Prerequisite				
課程描述 Course Description				
簡介生物資訊學的理论與應用，使學生具有評估與使用生物資訊學軟體的能力。				
課程目標 Course Objectives				
介紹生物資訊學概念、原理與網路上資源，教導學生使用海生館建置之生物資訊系統。				
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	Introduction			
2	Genome information resource I			
3	Genome information resource II			
4	Protein information resource and DNA sequence analysis			

5	Pairwise alignment techniques I	
6	Pairwise alignment techniques II	
7	Multiple sequence alignment I	
8	Multiple sequence alignment II	
9	期中考試週 Midterm Exam	
10	Phylogenetic analysis I	
11	Phylogenetic analysis II	
12	Protein 3D Structure Prediction I	
13	Protein 3D Structure Prediction II	
14	Next generation Sequencing	
15	Metagenomic analysis I	
16	Metagenomic analysis II	
17	Metagenomic analysis III	
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)	30%		✓						
期中考成績 Midterm Exam									
期末考成績 Final Exam	40%	✓							
作業成績 Homework and/or Assignments	30%		✓						
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.)

Bioinformatics and Functional Genomics, Jonathan Pevsner, 3rd Edition, Wiley-Blackwell (2015).

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)