國立東華大學

教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	分子生物科技			學年/學期 Academic Year/Semester	114/1
課程名稱(英文) Course Name in English	Molecular Biotechnology				
科目代碼 Course Code	BMM_M0050	系級 Department & Year	碩士	開課單位 Course-Offering Department	生化暨分子醫學科學系
修別 Type	必修 Required	學分數/時間 Credit(s)/Hour(s)	3.0/3.0		
授課教師 Instructor	/彭致文/李佳洪				
先修課程 Prerequisite					

課程描述 Course Description

本課程主要讓學生對於生物科技涵蓋的內容有基礎的認識，課程的重點之一為啟發學生對於生物科技之興趣及思考能力

課程目標 Course Objectives

The course aims to guide students to understand cell biology, molecular cell biology, knowledge, scientific rationale, and methodology; in addition, students can learn the ability to gain comprehensive understanding of scientific issues related to cell biology.

	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	具備生物技術相關學科之基礎知識。Having a fundamental understanding of subjects related to biotechnological techniques.	●
B	具備邏輯分析與解決問題的能力。Having the capabilities of logical analysis and problem solving.	○
C	具備資料整合、數據分析與書面及口頭報告能力。Having the capabilities of data integration and analysis, and the skills of written and poster presentation.	○
D	具備終生學習的能力。Having the capability of lifelong learning.	●

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	Nanosystem characterization tools in the life sciences	
2	Cellular drug delivery	
3	Nanomaterials for cancer diagnosis	
4	Nanotechnology for targeted cancer therapy	
5	Fluorescence and bioluminescence in vivo imaging system	
6	期中考試週 Midterm Exam	
7	Recombinant DNA	

8	Recombinant virus	
9	Recombinant protein	
10	Fluorescence and luminescence application	
11	Omics biotechnology	
12	Molecular imaging in drug R & D	
13	Gene Editing-Crispr/Cas9 system	
14	Translational medicinal research	
15	Bioinformatic and drug development	
16	Overview and discussion	
17	End-term presentation	
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 Industy-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	20%		✓						
期中考成績 Midterm Exam	30%		✓	✓					
期末考成績 Final Exam	30%		✓	✓					
作業成績 Homework and/or Assignments	20%						✓		
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.)

其他補充說明 (Supplemental instructions)