國立東華大學

教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	細胞培養技術概論			學年/學期 Academic Year/Semester	115/1
課程名稱(英文) Course Name in English	Cell Culture Application				
科目代碼 Course Code	MBT_56420	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	/呂美津				
先修課程 Prerequisite					

課程描述 Course Description

本課程是學生認識細胞培養方法及基本細胞實驗技巧，基本細胞實驗為研究天然物活性最基本之技術，更深入開設具有活性主題連貫性之課程，培育具備專業知識與紮實實作能力之生物科技人才。

課程目標 Course Objectives

本課程是學生認識細胞培養方法及基本細胞實驗技巧，最後冷凍保存細胞，這些基本細胞實驗為研究天然物活性最基本之技術，更深入開設具有活性主題連貫性之課程，培育具備專業知識與紮實實作能力之生物科技人才，為十分重要的課程。

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	Basic cell culture-To focus the basic techniques required for successful cell culture	https://meet.google.com/aam-dbsj-aef
2	Establishment, maintenance, and cloning of human dermal fibroblasts -To establish a reliable protocol for the maintenance the primary cell, such as fibroblasts	https://meet.google.com/aam-dbsj-aef
3	Aging of cultured human skin fibroblasts-To study the in vitro cellular senescence for understanding organism aging	https://meet.google.com/aam-dbsj-aef
4	Ex vivo maintenance of differentiated mammalian cells-Maintenance of differentiated epithelia cells including ex vivo can be achieved now to a surprising degree through recognition of two complimentary and dramatically interacting sets of mechanisms	
5	Scale-up of suspension and anchorage-dependent animal cells-The principles and techniques of scale-up for cell culture	
6	Hollow-fiber cell culture-Hollow-fiber mammalian cell culture	
7	Separation and maintenance of primary T and B-lymphoacytes-To establish T- and B-lymphocytes from clinical material	
8	Human pilosebaceous culture-To establish human pilosebaceous culture	
9	期中考試週 Midterm Exam	
10	Establishment, maintenance, and cloning of human dermal fibroblasts -To establish, maintance, and clone the human dermal fibroblasts	
11	Culturing primitive hemopoietic cells-To establish the maintenance of normal primitive hemopoietic cell types in culture for long periods	

12	Keratinocyte culture-To establish the keratinocyte culture on tissue-culture plastics	
13	Tissue culture of skeletal muscle-The disaggregating method used to grow skeletal muscle from neonatal mouse muscle	
14	Culture of cells from human tumors of the nervous system on an extracellular cells derived form bovine corneal endothelial cells-To culture the human tumor cells from the nervous system	
15	Long-term B-lymphoid cultures from murine bone marrow establishment and cloning by using stromal cell line AC 6.21-To establish long-term proliferation and differentiation of early B-lymphocyte lineage cells	
16	Mouse long-term bone marrow culture-To establish the human hematopoietic cells from bone marrow	
17	Culturing primitive hemopoietic cells	

彈性教學規劃 Flexible Teaching Plan	請勾選(至少需勾選1 個項目)： Please tick the box(es). (At least one item is required.): ☑ 問題討論 Problem-based Discussion ☐ 翻轉教學 Flipped Classroom ☐ 展演實作 Performance / Practical Presentation ☐ 校外參訪Off-campus Visit ☐ 講座活動 Lecture / Seminar ☐ 線上作業 Online Assignments ☑ 自主學習 Self-directed Learning ☐ 課業輔導Academic Support ☑ 實驗操作 Experiment Operation ☐ 遠距教學(同步) Distance Learning (Synchronous) ☐ 遠距教學(非同步) Distance Learning (Asynchronous) ☐ 其他(請填寫) Others (Please specify.): 備註: 本校學期週數自115 學年度起調整為17 週，為符合1學分18 小時之原則，請教師規劃安排彈性教學。 Note: From the 115th academic year, the semester will be 17 weeks. Please include flexible teaching activities to meet the required 18 hours per credit.

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(含出缺席) General Performance (Attendance Record)	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.)

Basic Cell culture protocols,Edited by Jeffery W. Pollard and John M. Walker, Humana press)

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-aef

其他補充說明 (Supplemental instructions)