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②國玄東華大學

教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	高階細胞培養技	泛術			學年/學期 Academic Year/Semester			
課程名稱(英文) Course Name in English	Cell Culture Application							
科目代碼 Course Code	MBT_56480	系級 Department 碩士 & Year		開課單位 Course-Offering Department	海	洋生物研究所		
修別 Type	選修 Elective	學分數/時 Credit(s)/Hou		3	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,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。

課程目標 Course Objectives

本課程是學生認識細胞培養方法及細胞實驗技巧,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。

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	Cell fates-Cells develop phenotypes that are determined by organized and regulated molecular processes and diverse fates including proliferation, differentiation, and apoptosis.	
2	Cell cycle regulatory cascades—The regulation of cell number is of major importance to both unicellular and multicellular organisms.	
3	Cell cycle inhibitory proteins-Studies on cell cycle control focus on the progression of cells through G1 into S phase. A particular group of proteins with important role controlling the decision of cells to exit the cell cycle are CDK-inhibitory proteins.	
4	Architectural organization of the regulatory machinery for transcription, replication, and repair: dynamic temporal-spatial parameters of cell cycle control-The process focuses on the accruing insights into nuclear architecture and cytoarchitecture and their contributions to the subcellular localization and activity of the regulatory machinery for replication, transcription and repair.	
5	Membrane receptors and signal transduction pathways in G1 The G1 phase of cell cycle is to regulate the passage of cell into and through G1-	
6	Onset of DNA synthesis and S phase-The identification and characterization of cylcins and CDKs are associated with entry into and progression through S phase.	
7	Chromatin remodeling and cancer-Misregulation of many of the cromatin remodeling enzymes has been associated with defects in cellular proliferation and tumorigenesis.	

8	Apoptosis signaling in normal and cancer cells-Understanding the molecular events that contribute to drug-induced apoptosis, and how tumors evade apoptotic death, provides a paradigm to explain the relationship between cancer genetics and treatment sensitivity and should enable a more rational approach to anticancer drug design and therapy.						
9	期中考試週 Midterm Exam						
10	Apoptosis signaling in normal and cancer cells—Understanding the molecular events that contribute to drug-induced apoptosis, and how tumors evade apoptotic death, provides a paradigm to explain the relationship between cancer genetics and treatment sensitivity and should enable a more rational approach to anticancer drug design and therapy.						
11	Mutagenesis, mutation, and repair-The process focus on the major DNA repair and maintenance pathways and their relevance to cancer.						
12	Oncogenessis-Oncogenesis is used to include any gene whose expression is associated with enhanced growth of tumor cells.						
13	Autophagosome and phagosome-Autophagy and phagocytosis are evolutionarily ancient processes functioning in capture and digestion of material found in the cellular interior and exterior, respectively.						
14	Fine structure of autophagosome-Detailed introductions are given for the preparation of cells for conventional electron microscopy and for the identification of autophagic vacuoles bymorphology.						
15	Methods for assessing apoptotic cell death—The methods to assess the promotion and inhibition of apoptotic cell death via pharmacological and genetic manipulations.						
16	Methods for assessing autophagy and autiphagic cell death-The methods to assess the promotion and inhibition of autophagic cell death via pharmacological and genetic manipulations.						
17	Methods for assessing autophagy and autiphagic cell death-The						
18	期末考試週 Final Exam						
	教學策略 Teaching Strategies						
	授 Lecture						
L 其他Mis	scellaneous:						
	教學創新自評Teaching Self-Evaluation						
創新教學(Innovative Teaching)						
問題導	向學習(PBL) 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						
跨域合作(Transdisciplinary Projects)						
一 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 othe	r:						
1							

學期成績計算及多元評量方式 Grading & Assessments									
配分項目	配分比例 Percentage	多元評量方式 Assessments							
Items		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.)

Cell Cycle and Growth: Biomolecular regulation and cancer, Edited by Gary S. Stein and Arthur B. Pardee. A John Willy&Sons., Publication

Apoptosis, Edited by Lawrence M. Schwarts and Jonathan D. Ashwell. Academic press. Autophagosome and Phagosome, Edited by Vojo Deretic. 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.)

其他補充說明(Supplemental instructions)