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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	近術		學年/學期 Academic Year/Semester		113/2	
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		3.0/3.0			
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

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)