國立東華大學

課　　綱　Course Outline

海洋生物研究所碩士班生物多樣性及演化組

中文課程名稱 Course Name in Chinese	高階細胞培養技術				
英文課程名稱 Course Name in English	Cell Culture Application				
科目代碼 Course Code	MBT_56480	班 別 Degree	碩士班 Master’s		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					

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。

系教育目標
Dept.’s Education Objectives

1	研究具有本土特色與國際競爭優勢的海洋生物多樣性及演化課題 Studying the topics of marine biodiversity and evolution with both local and international significance.
2	培養具備海洋生物多樣性知識與研發能力以及國際觀的專業人才 Training professionals with knowledge, research capability, and global perspective in marine biodiversity.

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	培養海洋生物多樣性及演化的認知及專業能力。 Professional knowledge and skills in marine biodiversity and evolution research.	
B	具備海洋生態保育及環境保護的概念。 Concepts of conservation of marine ecology and environment.	
C	具備獨立思考邏輯思辨及問題解決能力。 Capability of thinking independently and logically and solving problems.	

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

課程大綱
Course Outline

1. Basic cell culture
2. Establishment, maintenance, and cloning of himan dermal fibroblasts
3. Aging of cultured human skin fibroblasts
4. Ex vivo maintenance of differentiated mammalian cells
5. Scale-up of suspension and anchorage-dependent animal cells
6. Hollow-fiber cell culture
7. Separation and maintenance of primary T and B-lymphoacytes
8. Human pilosebaceous culture
9. Keratinocyte culture
10. Tissue culture of skeletal muscle
11. Isolation of Rat liver hepatocytes
12. Primary kidney cells
13. Human thyroid cells
14. Long-term B-lymphoid cultures from murine bone marrow
15. High proliferation potential colony-forming cells
16. Culturing primitive hemopoietic cells

資源需求評估（師資專長之聘任、儀器設備的配合・・・等）
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

其他
Miscellaneous