



課 綱 Course Outline  
生化暨分子醫學科學系碩士班國際組

中文課程名稱 Course Name in Chinese	分子生物科技				
英文課程名稱 Course Name in English	Molecular Biotechnology				
科目代碼 Course Code	BMM_M0050	班 別 Degree	碩士班 Master' s		
修別 Type	必修 Required	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
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.					
系教育目標 Dept.' s Education Objectives					
1	培養從事生命科學及生物技術之專業人才。 Cultivating professionals engaged in biochemistry and molecular medicine.				
2	培育學生具有自我學習、獨立思考與創新之能力。 Fostering students to acquire the capabilities of self-learning, independent thinking, and innovation.				
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.	●
E	溝通協調能力與團隊合作之精神，及生物醫學工作人員專業倫理。 The spirit of communication, coordination, and teamwork, as well as professional ethics for biomedical workers.	
圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated		
課程大綱 Course Outline		
1. Manipulation of gene expression 2. Protein sorting and degradation 3. Recombinant biotechnology 4. Genomics to proteomics 5. Cell-based biotechnology 6. Fluorescence and luminescence 7. Molecular imaging 8. Nanobiotechnology		
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.)		
Computer-aided projector		
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods		
1. Lecture and Discussion 2. Homework assignments 3. Oral report-part of assignments 4. Field trip		
其他 Miscellaneous		
1. Molecular Biotechnology- Principles and applications of rDNA by B. R. Glick and J. Pasternak 2. Molecular Biology of the Genes by Watson et. al.		