



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	核醣核酸科技				
英文課程名稱 Course Name in English	RNA Technology				
科目代碼 Course Code	BMM_M0070	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					
Upon completing this course, the student will have reliably demonstrated understanding of the structure and function of RNA molecules and learn the contemporary techniques to analyze RNA and RNA-associated molecules. 瞭解RNA的結構與功能，熟悉RNA分子相關技術之原理與應用。					
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		
The course will describe DNA vs. RNA, RNA world and Evolution, methods for RNA structural determination, methods for analyzing RNA-protein interactions, site-directed mutagenesis, RNAi and CRISPR technologies, and functions of noncoding RNAs.		
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.)		
Each lecture will use PowerPoint presentations and multimedia demonstrations regarding various topics. 期刊論文。筆電及單槍投影機。		
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods		
The lecturer will explain the rationale and techniques of the indicated topics. Related journal articles will be assigned for student reading. 教授各種研究核酸結構與功能之技術。		
其他 Miscellaneous		