



課 綱 Course Outline
生命科學系生物技術碩士班國際組

中文課程名稱 Course Name in Chinese	脂質化學與代謝				
英文課程名稱 Course Name in English	Lipid chemistry and metabolism				
科目代碼 Course Code	BT_M0140	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					
<p>Enable students to understand:</p> <ol style="list-style-type: none"> Biochemical properties and metabolic pathways of lipids. The regulatory mechanisms of lipids metabolism and the associated signaling pathways. Techniques utilized in lipid biochemistry research. <p>教導學生了解：</p> <ol style="list-style-type: none"> 脂質的基本組成結構以及其生化物理特性。 脂質代謝路徑與其相關之調控機制與相關疾病。 脂質生化學研究相關技術 					
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 experts engaged in life science and biotechnology.				
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 the basic knowledge of biotechnology.			●	
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.	
圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated		
課程大綱 Course Outline		
1. Synthesis and dynamics of phospholipids 2. Phospholipids in cell signaling 3. Biogenesis and cellular dynamics of neutral lipids 4. Biochemistry and function of sterol 5. Metabolism and defects of cholesterol biosynthesis 6. ACAT and DGAT2 gene families 7. Lipin gene families 8. Mechanisms and mediators of neutral lipid biosynthesis in eukaryotic cells 9. Sphingosine-1-phosphate and sphingolipids metabolism 10. Obesity and Metabolic Syndrome		
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.)		
現有合宜專任師資；提供投影機等教學用具；購置訂閱細胞代謝、脂質研究等相關圖書及期刊。		
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods		
除主題講授外，本課程亦將選擇脂質代謝領域中之期刊文章進行導讀與討論；另外，修課同學也須就各主題蒐集料進行口頭報告。		
其他 Miscellaneous		