

課程資訊	
課程名稱	醣質生物學 Glycobiology
開課學期	114-2
授課對象	工學院 永續化學科技國際研究生博士學位學程
授課教師	邱繼輝
課號	BChem7019
課程識別碼	B46EM1240
班次	
學分	2.0
全/半年	半年
必/選修	選修
上課時間	星期三 8,9(15:30~17:20)
上課地點	
備註	本課程以英語授課。本課程以英語授課。與安形高志,呂桐睿合授 教室:N101,IBS,NTU 與安形高志、呂桐睿合授 總人數上限：50 人
課程簡介影片	
核心能力關聯	核心能力與課程規劃關聯圖
課程大綱	
為確保您的權利,請尊重智慧財產權及不得非法影印	
課程概述	This course aims to teach the fundamentals and applications of glycobiology in the broader context of functional glycomics, based on the recently updated textbook “essentials of glycobiology 2nd edition”, which is freely available on the ncbi bookshelf, and other web materials on the nature functional glycomics gateway. From the cause and consequences of onco-developmental changes in glycosylation to proteins that recognize, bind and mediate the

	functions of glycans, students are introduced to essential concepts and recent developments in the field. Current pursue in both basic research and medical applications, including the historical development of neuraminidase inhibitors (e.g. tamiflu) and glycans involved in viral infections are discussed in the context of what chemical approaches are available to glycobiologists for diagnostics and therapeutics. Seminars are organized for students in groups to present and discuss key original research papers, which together with following up written report, will constitute the principal course work and assessment.
課程目標	本課程旨在讓學生了解醣科學的基礎概論，包含醣生物學與醣化學的層面，進而使他們能夠：1) 自信地深度閱讀此領域的文獻，2) 為以後深入此領域的研究做好準備。 Goals: This course intends to give students an overview of the fundamental aspects of glycoscience, including both glycobiology and chemistry, enabling them to: 1) read literature in this area with confidence and 2) be prepared for future more in-depth study of the area.
課程要求	學生將依學期末的口頭報告被評分。此外，學生必須出席所有的課程，包括其他同學的報告。曠課超過兩節課的學生，其等第被降低的細節如下：三次曠課—降低三分之一個等第（如 A-至 B+）；四次曠課—降低一個完整的等第（如 A-至 B-）；五次曠課—降低兩個等第（如 A-至 C-）；六次或以上曠課—課程不及格。 Assessment: Students will be evaluated on the basis of a presentation at the end of the semester. In addition, attendance in all classes, including student presentations, is required. Students who miss more than two classes will have their grades reduced as follows: three absences –

	reduction of one-third a letter grade (e.g., A– to B+); four absences – reduction of a full letter grade (e.g., A– to B–); five absences – reduction of two letter grades (e.g., A– to C–); six or more absences – failure in course.	
預期每週課前或/與課後學習時數	課後學習時數 1-2 。 如有特別指定作業(要先讀某篇 paper)及最後兩週的報告，課前需要花較多時間準備。報告結束課後 0.5 小時回顧同學報告的相關討論。	
Office Hours		
指定閱讀		
參考書目	Essentials of glycobiology 2nd edition	
評量方式 (僅供參考)	1. 本校尚無訂定 A+ 比例上限。 2. 本校採用等第制評定成績，學生成績評量辦法中的百分制分數區間與單科成績對照表僅供參考，授課教師可依等第定義調整分數區間。詳見學習評量專區 (連結)。	
課程進度		
週次	日期	單元主題
第 1 週	2/25	Todd A Primer on Carbohydrate Structure and Conformation
第 2 週	3/04	Khoo A Primer on Protein Glycosylation
第 3 週	3/11	Todd Chemical Glycosidic Bond Formation
第 4 週	3/18	Todd Glycoenzymes
第 5 週	3/25	Todd Microbial Glycans and Biophysical Methods

第 6 週	4/01	Khoo Mucin type O-glycosylation and Host-Microbe Interplay
第 7 週	4/08	Khoo Glycomic Diversity and GlycoInformatics
第 8 週	4/15	Khoo Glycoproteomics and Analytical Approaches
第 9 週	4/22	Angata General Aspects of GBP and Galectins
第 10 週	4/29	Angata C-type lectins
第 11 週	5/06	Angata Siglecs
第 12 週	5/13	Angata Integrative Systems Glycobiology
第 13 週	5/20	Student Presentations
第 14 週	5/27	Sialoglyco
第 15 週	6/03	Student Presentations
第 16 週	6/10	Student Presentations