

理學院科學學士學位課程 跨域模組課程 必修科目表 (B)

The Required Course List for the students study cross-disciplinary module curriculum of the Undergraduate Honors Program of Interdisciplinary Science (B)

類別 Category	科目名稱 Course Name	學分 Credit	規定 學分 Credit	開課系所 Department	備註 Remark	
<p>本班跨域模組 (28 學分) 修畢於畢業證書加註 『跨域專長：科學』</p> <p>Cross-disciplinary modules at our department (28 credits)</p> <p>It could be remarked as“Cross-Disciplinary Specialty : Science” on the diploma after the module curriculum is completed.</p>	「基礎科學研究方法與實作」 (一)(二)(三)(四) Introduction to Scientific Research and Implementation (I) (II) (III) (IV)	12	12	本班 Undergraduate Honors Program of Interdisciplinary Science		
	<b>跨領域 Interdisciplinary :</b>					
	跨領域科學專題(一)(二)(三)(四) Interdisciplinary : Directed Studies in Interdisciplinary Science(I)(II)(III)(IV)	6				
	科學史文本選讀 Selected Readings in the History of Science	3				
	數學發展史導論 Intro. to the History of Mathematics	2 或 3				
	物理學發展史導論 Intro. to the History of Physics	2 或 3				
	宇宙學發展史導論 Intro. to the History of Cosmology	2 或 3				
	<b>物理領域 Physics</b>					
	電子學(一)(二) Electronics(I)(II)	6				
	理論力學(一)(二) Theoretical Mechanics(I)(II)	6				
	電磁學(一)(二) Electromagnetics (I)(II)	6				
	量子力學導論 Int. to Quantum Mechanics	3				
	光學概論(一)(二) Introduction to Optics (I) (II)	6				
	近代物理(一)(二) Modern Physics (I) (II)	6				
	熱物理 Thermal Physics	3				
	固態物理(一) Solid State Physics (I)	3				
	企業實習 Business internship	3				
	應用群論	3				
	<b>數學領域 Mathematics :</b>					
	分析導論(高等微積分)(一)(二) Introduction to Analysis (I)(II)	8				
	線性代數(一)(二) Linear Algebra (I)(II)	6				
	微分方程 Differential Equations	3				
	代數(一) Algebra (I)	3				
	偏微分方程(導論) Int. to Partial Differential equations	3				
	計算數學 Computational Mathematics	3				
	離散數學 Discrete Mathematics	3				
	複變函數 Complex Analysis	3				
	機率論	3				
				應數系 Department of Applied Mathematics		

	Probability			
	統計學或統計方法 Statistics or Statistical Methods	3		
	數學軟體實作 Mathematical Software and Implementation	3		
	狹義相對論	3		
	<b>化學領域 Chemistry :</b>			
	有機化學(一)(二)(三) Organic Chemistry (I)(II)(III)	12		應化系 Department of Applied Chemistry
	分析化學(一)(二) Analytical Chemistry (I)(II)	6		
	物理化學(一)(二)(三) Physical Chemistry (I)(II)(III)	12		
	無機化學(一)(二) Inorganic Chemistry (I)(II)	6		
	儀器分析 Instrumental Analysis	3		
	<b>大數據及 AI 領域 Big Data and Artificial Intelligence :</b>			
	機器學習 Machine Learning	3		應數系 Department of Applied Mathematics Or 資工系 Department of Computer Science
	深度學習 Deep Learning	3		
	資料結構 Data Structures	3		
	資料探勘 Data Mining	3		
	人工智慧概論 Intro. to Artificial Intelligence	3		
	機率與統計 Probability and Statistics	3		
	機器學習與生醫應用 Machine Learning & Biomedical Application	3		
	深度學習與生醫應用 Deep Learning and Biomedical Applications	3		
	<b>智慧生醫領域 Smart Biomedical :</b>			
	資料結構與演算法 Data Structures and Algorithms	2		陽明生醫光電研究所 The Institute of Biophotonics at National Yang-Ming University
	奈米科技概論 Intro. to Nanobiotechnology	2		
	奈米化學 Nano Chemistry	3		
	生物醫學訊號與影像處理特論 Special Topics on Biomedical Signal and Image Processing	3		
	基礎光電材料與技術 Basic Photonic Materials and Technology	3		
	醫療科技實務 Medical Technology Practice	1		
	訊號與系統 Signals and Systems	3		
	應用雷射與非線性光學 Applied Laser and Nonlinear Optics	3		
	生物物理化學(一)(二) Biophysical Chemistry (I)(II)	4		

醫用生物物理 Medical Biophysics	2		
電漿子學與生醫感測 Plasmonics for Biosensors	3		
生醫感測與微奈米操控科技 Biosensing and Micro- /Nanomanipulation Technology	2		
機器學習與生醫應用 Machine Learning & Biomedical Application	3		
生醫斷層影像原理與應用 Principle and Applications of Biomedical Tomography	3		
LabVIEW 程式設計與生醫應用 LabVIEW Programming and Biomedical Applications	3		
跨領域科學實驗 Interdisciplinary Scientific Experiments	3		
深度學習與生醫應用 Deep Learning and Biomedical Applications	3		
總學分 Total Credits		28	