

理學院科學學士學位學程 (雙學位)

Undergraduate honors Program of Interdisciplinary Science(Dual Degree)

105 學年度 (Academic Year 2016)

科目名稱 Course Name	規定 學分 Credit	第一學年		第二學年		第三學年		第四學年		備註 Note
		Grade 1 1st	Grade 1 2nd	Grade 2 1st	Grade 2 2nd	Grade 3 1st	Grade 3 2nd	Grade 4 1st	Grade 4 2nd	
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	3	3	3	3					必修課程至少取得 18 學分，「跨領域科 學專題」：大三或大 四必修。A minimum of 18 credits are required from mandatory courses. ‘Directed Studies in Interdisciplinary Science’ is mandatory in the third year or the fourth year.
跨領域科學專題(一)(二) Directed Studies in Interdisciplinary Science(I)(II)	6					3	3			
物理(一)(二) Physics(I)(II)	8	4	4							跨領域科學基礎課程 Basic Courses of Interdisciplinary Science
物理實驗(一)(二) Physics Labs. (I)(II)	2	1	1							
電腦模擬與計算分析 Physics with computer simulation	2								2	
化學(一)(二) Chemistry(I)(II)	6	3	3							
化學實驗(一)(二) Chemistry Labs. (I)(II)	2	1	1							
微積分(一)(二) Calculus(I)(II)	8	4	4							
微積分學而班(一)(二) Honor calculus problem solving session (I)(II)	2	1	1							
普通生物學(一)(二)或近代生物 學(一)(二) General Biology(I)(II) or Modern Biology(I)(II)	6	3	3							
跨領域科學專題(三)(四) Directed Studies in Interdisciplinary Science(III)(IV)	6							3	3	跨領域科學核心課 程，選修非本表規定 之課程，學分抵免最 高以 6 學分為限 Core Courses of Interdisciplinary Science. Subject to the approval of the curriculum committee, students may elect up to 6
神經科學導論 Introduction to Neuroscience	3									
線性代數(一)(二) (應數) Linear Algebra(I)(II)	6	3	3							
分析導論(一)(二) (應數) Introduction to Analysis (I)(II)	8			4	4					
代數(一) (應數) Algebra(I)	3			3						

代數(二)(應數) Algebra(II)	3				3					credits of courses not in the list.
偏微分方程(導論)(應數) Introduction to Partial Differential Equations	3				3					
微分方程(一)(應數) Differential Equations (I)	3			3						
電磁學(一)(二)(電物) Electromagnetics(I)(II)	6			3	3					
電子學(一)(二)(電物) Electronics(I)(II)	6			3	3					
量子力學(導論)(一)(二)(電物) Int. to Quantum Mechanics(I)(II)	6					3	3			
物理化學(一)(二)(應化) Physical Chemistry(I)(II)	8			4	4					
有機化學(一)(二)(應化) Organic Chemistry(I)(II)	8			4	4					
分析化學(一)(二)(應化) Analytical Chemistry(I)(II)	6			3		3				
無機化學(一)(二)(應化) Inorganic Chemistry(I)(II)	6					3	3			
生物化學(一)(二) Biochemistry(I)(II)	6			3	3					
細胞生物學(一)(二) Cell Biology(I)(II)	4 或 6					2 或 3	2 或 3			
分子生物學 Molecular Biology	3				3					
合計 Total	35									

「理學院科學學士學位學程」雙學位畢業學分：除主修學系或原學系之畢業規定外，須滿足本班規定至少 35 學分。必選課程至少取得 17 學分，必選課程包含「跨領域科學基礎課程」及「跨領域科學核心課程」。

[Undergraduate honors Program of Interdisciplinary Science] Dual Degree graduation credits requirement: Except for major or original department requirement regulation, the graduation requires at least 35 credits. The minimum number of mandatory courses is 17 credits, including Basic Courses of Interdisciplinary Science and Core Courses of Interdisciplinary Science.

理學院科學學士學位學程

Undergraduate honors Program of Interdisciplinary Science

105 學年度 (Academic Year 2016)

科目名稱 Course Name	規定 學分 Credit	第一學年 Grade 1		第二學年 Grade 2		第三學年 Grade 3		第四學年 Grade 4		備註 Notes
		1st	2nd	1st	2nd	1st	2nd	1st	2nd	
		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	3	3	3	3			
跨領域科學專題(一)(二) Directed Studies in Interdisciplinary Science(I)(II)	6					3	3			
物理(一)(二) Physics(I)(II)	8	4	4							
微積分(一)(二) Calculus(I)(II)	8	4	4							
物理實驗(一)(二) Physics Labs. (I)(II)	2	1	1							跨領域科學基礎課程至 少取得 12 學分 A minimum of 12 credits are required from Basic Courses of Interdisciplinary Science.
電腦模擬與計算分析 Computer Simulation and Analysis	2								2	
化學(一)(二) Chemistry(I)(II)	6	3	3							
化學實驗(一)(二) Chemistry Labs. (I)(II)	2	1	1							
微積分學而班(一)(二) Honor calculus problem solving session (I)(II)	2	1	1							
普通生物學(一)(二)或近代生 物學(一)(二)General Biology(I)(II) or Modern Biology(I)(II)	6	3	3							
跨領域科學專業課程 Interdisciplinary Science Specialized Curriculum	32	依本班修業規定，分成四個領域：電 物、應數、應化、跨領域。除跨領域外， 在其他三個領域中至少選修兩個領 域，每個領域至少 9 學分。 According to the regulation, the curriculums are divided to four sectors: Electrophysics, Applied Mathematics, Applied Chemistry, and Interdisciplinary. Students should elect courses from at least 2 different sectors other than the interdisciplinary sector, and each sector requires at least 9 credits.								跨領域科學專業課程至 少取得 32 學分 A minimum of 32 credits are required from Interdisciplinary Science Specialized Curriculum.
合計 Total	78									

本班最低畢業學分：128 學分 (含校訂共同必修課程 28 學分)

The requirement credits: 128 credits (Include 28 credits of Common Required Course for Undergraduate)

理學院科學學士學位學程選修課程規畫

Undergraduate honors Program of Interdisciplinary Science Elective Curriculum

跨領域科學專業選修(必選課程)：至少取得 32 學分
 以下四個不同領域課程，除跨領域外，學生畢業前必須至少選修二個領域之必選課程，每個領域至少取得 9 學分。Interdisciplinary Science Specialized Elective Curriculum: A minimum of 32 credits are required. Following are 4 different specialized sectors. Except for Interdisciplinary, each student has to elect at least 2 sectors of the elective courses before graduation, and each sector requires at least 9 credits.

	科目 Course	credits	領域 Sector
1	應用數學(一)(線性代數、向量分析)Applied Math.(I)(Linear Algebra, Vector Analysis)	3	【電物領域】 Electrophysics
2	應用數學(二)(微分方程) Applied Math.(II)(Differential Equation)	3	
3	應用數學(三)(複變函數) Applied Math.(III) (Complex Variables)	3	
4	電子學(一)(二) Electronics (I)(II)	6	
5	理論力學(一) Theoretical Mechanics (I)	3	
6	電路理論(一) Circuit Theory (I)	3	
7	材料科學導論 Introduction to Material Science	3	
8	電磁學(一)(二) Electromagnetics (I)(II)	6	
9	近代物理 Modern Physics	3	
10	量子力學導論(一) Int. to Quantum Mechanics (I)	3	
11	熱物理 Thermal Physics	3	
12	固態物理(一) Solid State Physics (I)	3	
1	分析導論(一)(二) Introduction to Analysis (I)(II)	8	【應數領域】 Applied Mathematics
2	線性代數(一)(二) Linear Algebra (I)(II)	6	
3	機率論 Probability	3	
4	微分方程(一) Differential Equations (I)	3	
5	統計學 Statistics	3	
6	數學軟體實作 Mathematical Software and Implementation	3	
7	計算數學 computational mathematics	3	
8	代數(一) Algebra (I)	3	
9	離散數學 Discrete Mathematics	3	
10	複變函數 Complex Analysis	3	
11	代數(二) Algebra (II)	3	
12	偏微分方程(導論)Int. to Partial Differential Equations	3	
1	有機化學(一)(二) Organic Chemistry (I)(II)	8	【應化領域】 Applied Chemistry
2	分析化學(一)(二) Analytical Chemistry (I)(II)	6	
3	物理化學(一)(二) Physical Chemistry (I)(II)	8	
4	無機化學(一)(二) Inorganic Chemistry (I)(II)	6	
5	有機化學(三) Organic Chemistry (III)	3	
6	物理化學(三) Physical Chemistry (III)	3	
7	化學應用群論 Group Theory for Chemistry	3	
8	物理化學特論 Special Topics in Physical Chemistry	3	
9	神經科學導論 Introduction to Neuroscience	3	
1	跨領域科學專題(三)(四)Directed Studies in Interdisciplinary Science (III)(IV)	6	【跨領域】 Interdisciplinary