

110-114學年度系所課程地圖 Department Curriculum Map for Academic years 110-114

系所概要 Department

系所名稱 Department Name	應用數學系 Department of Applied Mathematics
班別 Division	博士班 Doctoral Program

教育目標 Education Goals

編號 Number	項目內容 Content
1	培養具有理論創新與應用能力之跨領域人才，能與各領域學科的專家溝通合作。
1	To cultivate interdisciplinary talents with the ability to innovate and apply theories, and to communicate and collaborate with experts in various disciplines.
2	具有前瞻視野，能夠理解國際學術前沿之趨勢。
2	To have a forward-looking vision and to be able to understand the trend of international academic frontiers.
3	兼備數學分析、統計、計算及數據科學諸領域之獨立研究及整合能力。
3	Independent research and integration skills in the areas of mathematical analysis, statistics, computation and data science.

學生核心能力 Student Core Competencies

編號 Number	項目內容 Content	對應教育目標編號 Corresponding Education Goal Number
A	數學專業思維與邏輯推理知識	123
A	Mathematical Thinking and Logic	123
B	數學分析專業知識	13
B	Professional Knowledge in Mathematical Analysis	13
C	計算科學專業知識	13
C	Professional Knowledge in Scientific Computation	13
D	數學與力學之理論解析	13
D	Theory of Mathematical Analysis and Mechanics	13
E	數學模型建構與軟體應用	13
E	Professional Knowledge in Computer Science	12

承辦人簽章 Signature of Responsible Person :

規劃單位主管簽章 Head of Planning Division :

Date : 115.01.13 - 1 -

110-114學年度系所課程地圖 Department Curriculum Map for Academic years 110-114

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系所名稱 Department Name	應用數學系Department of Applied Mathematics
班別 Division	博士班Doctoral Program

學生核心能力 Student Core Competencies

編號 Number	項目內容 Content	對應教育目標編號 Corresponding Education Goal Number
F	計算與模擬研究	23
F	Research in Computation and Simulation	23
G	外文文獻研討	2
G	Literature Review	2
H	統計分析專業知識	13
H	Professional Knowledge in Statistical Analysis	13

※附註 Note :

1.各系所所屬之班別，含學士班、碩士班、博士班等，請分別填寫。

1.Complete the map separately for each division, including Bachelor's, Master's, and Doctoral program.

例如：資管學士班需填寫表二及表三；資管碩士班也須填寫表二及表三。

For example, Forms 2 and 3 must be completed for Bachelor's program in Management Information Systems, and also for Master's program in for Bachelor's program in Management Information Systems.

2.教育目標及核心能力之代號皆以英文字母大寫為主。

2.Codes for Education Goals and Core Competencies must be in uppercase English alphabet letters.

3.可依不同班（組）別填寫教育目標及核心能力。

3.Education Goals and Core Competencies can be specific to the division in question.

承辦人簽章Signature of Responsible Person :

規劃單位主管簽章 Head of Planning Division :

Date : 115.01.13 - 2 -

應用數學系 Department of Applied Mathematics
 學士班 Bachelor's Program 碩士班 Master's Program 博士班 Doctoral Program
 碩專班 Master's Degree Program 國際專班 International Program 進修學士班 Bachelor Part-Time Program
課程規畫表 Curriculum Plan

中文課程名稱 Course Title in Chinese	英文課程名稱 Course Title in English	規劃要點 (附註) Plans (Notes)				對應核心能 力編號 Correspond ing Education Goal	建議修 課年級 Reco mme ded Cours	開課單位 Course Offering Unit	備註 Remarks
		1	2	3	4				
必修課程 Required Courses									
博士論文	Dissertation	D	C	Y	12	A25B25C25H25	2	應數系 Department of Applied Mathematics	
EMI專題演講(一)	EMI Seminar(1)	D	C	Y	0	A25B25C25H25	1	應數系 Department of Applied Mathematics	

1 : U-學士課程、M-碩士課程、D-博士課程。1: U-Bachelor's program, M-Master's program, D-Doctoral program.

2 : A-正課、B-實習課、C-台下指導之科目如學生講述或邀請演講之專題討論、專題研究.....等。

2 : A-Lecture, B-Internship, C-Subjects with private guidance such as student presentations or invited speeches, topic discussions, topic research, etc.

3 : S-學期課、Y-學年課。3: S-Semester course, Y-Year-long course.

4 : 科目（全期或全年）總學分數（請填阿拉伯數字）。4: Total course (full-semester or full-year) credits (in Arabic numerals).

承辦人簽章 Signature of Responsible Person :

規劃單位主管簽章 Head of Planning Division :

Date : 115.01.13 - 3 -

應用數學系 Department of Applied Mathematics									
□學士班 Bachelor's Program □碩士班 Master's Program ■博士班 Doctoral Program									
□碩專班 Master's Degree Program □國際專班 International Program □進修學士班 Bachelor Part-Time Program									
課程規畫表 Curriculum Plan									
中文課程名稱 Course Title in Chinese	英文課程名稱 Course Title in English	規劃要點 (附註) Plans (Notes)				對應核心能力編號 Corresponding Education Goal Number	建議修 課年級 Recommended Course Division	開課單位 Course Offering Unit	備註 Remarks
		1	2	3	4				
選修課程 Elective Courses									
高等機率	Advanced Probability Theory	D	A	S	3	A20B20H60	1	應數系 Department of Applied Mathematics	
高等機率專題	Special Topics on Advanced Probability Theory	D	A	S	3	A20B20H60	1	應數系 Department of Applied Mathematics	
高等數理統計 (一)	Advanced Mathematical Statistics(I)	D	A	S	3	H80D20	1	應數系 Department of Applied Mathematics	
高等數理統計 (二)	Advanced Mathematical Statistics(II)	D	A	S	3	H80E20	1	應數系 Department of Applied Mathematics	
力學專題 (一)	Special Topics in Mechanics(I)	D	A	S	3	A20C60E20	1	應數系 Department of Applied Mathematics	
力學專題 (二)	Special Topics in Mechanics(II)	D	A	S	3	A20C60E20	1	應數系 Department of Applied Mathematics	
流體力學專題	Special Topics on Fluid Mechanics	D	A	S	3	A30C70	1	應數系 Department of Applied Mathematics	
高等數值專題 (一)	Special Topics on Advanced Numerical (I)	D	A	S	3	A10B30D30F30	1	應數系 Department of Applied Mathematics	
高等數值專題 (二)	Special Topics on Advanced Numerical (II)	D	A	S	3	A10B50E40	1	應數系 Department of Applied Mathematics	
偏微分方程差分數值法 (一)	Difference Methods of Partial Differential Equations (I)	D	A	S	3	A10B50E40	1	應數系 Department of Applied Mathematics	
偏微分方程差分數值法 (二)	Difference Methods of Partial Differential Equations (II)	D	A	S	3	A10B50E40	1	應數系 Department of Applied Mathematics	
應用數學原理	Principle of Applied Mathematics	D	A	S	3	A25B25C25E25	1	應數系 Department of Applied Mathematics	
統計數據科學與強化學習	Statistical Data Science and Reinforcement Learning	M	A	S	3	E20H80	1	統計所 Graduate Institute of Statistics	
統計數據科學與深度學習	Statistical Data Science and Deep Learning	M	A	S	3	E20H80	1	統計所 Graduate Institute of Statistics	
統計數據科學與機器學習	Statistical Data Science and Machine Learning	M	A	S	3	E20H80	1	統計所 Graduate Institute of Statistics	

※附註：規劃要點填表說明：（1 到 4 各欄位請填正確代表字母）

Note : Instructions for completing this form are provided below (please provide the correct English alphabet letters in fields 1 to 4)

1 : U-學士課程、M-碩士課程、D-博士課程。1: U-Bachelor's program, M-Master's program, D-Doctoral program.

2 : A-正課、B-實習課、C-台下指導之科目如學生講述或邀請演講之專題討論、專題研究.....等。

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承辦人簽章 Signature of Responsible Person :

規劃單位主管簽章 Head of Planning Division :

Date : 115.01.13 - 4 -