

114 學年度系所課程地圖 Department Curriculum Map for Academic Year(s) 114

系所概要 Department	
系所名稱 Department Name	土木工程學系 Department of Civil Engineering
班別 Program	碩士班 Master's Program

教育目標 Education Goals	
編號 Number	項目內容 Content
A	培育兼顧理論與實務能力之土木工程及科技人才。 To train students to have theoretical and practical capabilities in civil engineering and technology
B	培養學生具備團隊合作、國際視野與工程倫理之認知與能力。 To cultivate students with team-work competence, global vision and engineering ethics
C	強化防災與永續工程教育。 To enhance education in hazard mitigation and sustainable engineering

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	土木工程計算、分析與設計能力。 Capability in computation and analysis for civil engineering theory	A
B	土木工程實務之分析、評估、設計、執行能力。 Capability in analysis, evaluation, design, and implementation for civil engineering practices	A、C
C	計畫管理、溝通、團隊合作、問題處理能力。 Capability in project management, communication, team work, and problem-solving	B
D	認識時事議題、瞭解土木工程人員之社會責任、重視工程與資訊倫理及培養持續學習之精神。 Acknowledgements in contemporary issues, societal responsibilities, engineering and information ethics, and continuing learning as civil engineers	B、C
E	結構工程、水利工程、大地工程、測量資訊、營建管理、土木防災、永續工程之專業知識 Professional knowledge in structural engineering, hydraulic engineering, geotechnical engineering, geomatics, construction management, hazard mitigation, and sustainable engineering	A、B
F	策劃、執行專題研究及撰寫專業論文之能力 Capability in the initiation and fulfillment of research proposals and writing professional theses	B、C

※附註 Note:

- 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.
- 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.
- 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 Processing Clerk:

規劃單位主管簽章 Head of Planning Unit:

114 年 9 月 26 日 Date:2025/9/26

土木工程學系 Department of Civil Engineering ■碩士班 Master's 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 Year of Study	開課單位 Course Offering Unit	備註 Remarks
		1	2	3	4				
院核心課程(若無免填，請加註必修、選修) College Core Courses (not required if none, otherwise please indicate Required Courses and Elective Courses)									
必修課程 Required Courses									
碩士論文	Thesis	M	C	Y	6	EF		土木系 Department Of Civil Engineering	
結構工程專題討論	Seminar in Structural Engineering	M	C	S	0	ABCDEF		土木系 Department Of Civil Engineering	
水利工程專題討論	Seminar in Hydraulic Engineering	M	C	S	0	ABCDEF		土木系 Department Of Civil Engineering	
大地工程專題討論	Seminar in Geotechnical Engineering	M	C	S	0	ABEF		土木系 Department Of Civil Engineering	
測量資訊專題討論	Seminar in Surveying Information Engineering	M	C	S	0	ABCDEF		土木系 Department Of Civil Engineering	

※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。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).

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		1	2	3	4				
選修課程 Elective Courses									
彈性力學	Theory of Elasticity	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
高等結構學	Advanced Structural Analysis	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
地震工程分析	Earthquake Engineering Analysis	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
板殼力學	Theory of Plates and Shells	M	A	S	3			土木系 Department Of Civil Engineering	
鋼筋混凝土構件行為學	Behavior of Reinforced Concrete Members	M	A	S	3	ABDE		土木系 Department Of Civil Engineering	
結構動力數值方法	Numerical Procedures for Structural Dynamics	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	原動力數值分析 107 改名 Numerical Procedures for Structural Dynamics 107 renamed
海中結構物之行為分析	Behavior and Analysis of Offshore Structures	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
鋼結構行為學	Behavior of Steel Structures	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
結構分析理論	Computer-Assisted Structural Analysis and Modeling	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
工程材料特論	Special Topics on Engineering Material	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
機率在結構工程上之應用	Probability Approach to Structural Engineering	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
結構可靠度分析	Analysis of Structural Reliability	M	A	S	3	ABDEF		土木系 Department Of Civil	

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		1	2	3	4				
高等預力混凝土	Advanced Prestressed Concrete	M	A	S	3	ABDE		Engineering 土木系 Department Of Civil Engineering	
高等鋼筋混凝土設計	Advanced Reinforced Concrete Design	M	A	S	3	ABDE		土木系 Department Of Civil Engineering	
鋼筋輕質混凝土	Reinforced Light Weight Concrete	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
有限元素法	Finite Element Method	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
結構分析與設計	Structural Analysis and Design	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
計算力學	Computational Mechanics	M	A	S	3			土木系 Department Of Civil Engineering	
耐震設計	Earthquake Resistant Design	M	A	S	3	ABCDE		土木系 Department Of Civil Engineering	
散漫振動	Random Vibration	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
高等鋼結構	Advanced Steel Structures	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
能量方法	Energy Method	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
再生混凝土	Recycled Concrete	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
非破壞檢測與結構健康監測	Nondestructive Testing and Structural Health Monitoring	M	A	S	3	ABE		土木系 Department Of Civil Engineering	原混凝土非破壞檢測 1072 改名 Nondestructive Testing of Concrete 1072 renamed
結構動力學	Structural Dynamics	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
營建安全	Safety Implementation in Construction	M	A	S	3	ABE		土木系 Department	

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		1	2	3	4				
結構隔震及消能設計	Structural Base Isolation and Energy Dissipation Design	M	A	S	3	ABCDE		土木系 Department Of Civil Engineering	
高等流體力學(一)	Advanced Fluid Mechanics(I)	M	A	S	3	AE		土木系 Department Of Civil Engineering	
高等流體力學(二)	Advanced Fluid Mechanics(II)	M	A	S	3	AE		土木系 Department Of Civil Engineering	
水資源系統分析(一)	Analysis of Water Resources System (I)	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
水資源系統分析(二)	Analysis of Water Resources System (II)	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
水工設計	Design of Hydraulic Structures	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
高等明渠水力學	Advanced Open Channel	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
應用統計學	Applied Statistics	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
有限元素在流體力學之應用	Finite Element Method for Fluid Mechanics	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
地理資訊系統	Geographic Information System	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
海岸水力學	Coastal Hydrodynamics	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
水文模式(一)	Rainfall-Runoff Simulation Models(I)	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
邊界層理論	Incompressible Boundary Layer Theory	M	A	S	3	AE		土木系 Department Of Civil Engineering	
逕流分析特論(一)	Special Topics on Runoff Analysis(I)	M	A	S	3	ABDEF		土木系 Department Of Civil	

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		1	2	3	4				
河口水力學	Estuary Hydraulics	M	A	S	3	ABCDEF		Engineering 土木系 Department Of Civil Engineering	
高等流體力學實驗	Advanced Fluid Mechanics Lab	M	AB	S	3	ABEF		土木系 Department Of Civil Engineering	
紊流理論	Theory of Turbulence	M	A	S	3	AE		土木系 Department Of Civil Engineering	
輸砂力學	Mechanics of Sediment Transport	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
隨機數據分析	Random Data Analysis	M	A	S	3	ABCDE		土木系 Department Of Civil Engineering	
計算流體力學(一)	Computational Fluid Dynamics (I)	M	A	S	3	AE		土木系 Department Of Civil Engineering	
計算流體力學(二)	Computational Fluid Dynamics (II)	M	A	S	3	AE		土木系 Department Of Civil Engineering	
局部冲刷特論	Special Topics on Local Scour	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
海岸工程特論	Special Topics on Coastal Engineering	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
橋樑水力學	Bridge Hydraulics	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
應用工程日文	Applied of Engineering Japanese	M	A	S	3	BDEF		土木系 Department Of Civil Engineering	
水文循環變遷特論(一)	Special Topics on Hydrologic Cycle Changing(I)	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
逕流分析特論(二)	Special Topics on Runoff Analysis(II)	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
水文循環變遷特論(二)	Special Topics on Hydrologic Cycle Changing(II)	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	

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		1	2	3	4				
生態環境施工法	Environment-friendly Engineering Methods	M	A	S	3	BCDEF		土木系 Department Of Civil Engineering	
海岸環境與保護工程	Coastal Environment and Protection Engineering	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
現場監測	Field Monitoring Techniques	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
高等基礎工程	Advanced Foundation Engineering	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
土壤質流學	Soil Rheology	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
高等應用土壤力學	Advanced Applied Soil Mechanics	M	A	S	3	ABCEF		土木系 Department Of Civil Engineering	
電子計算機在大地工程上之應用	Computer Application in Geotechnical Engineering	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
坡地工程特論	Special Topics on Slope Land Engineering	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
土壤動力學	Soil Dynamics	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
邊界元素法	Boundary Element Method	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
高等工程地質學	Advanced Engineering Geology	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
地下水與滲流	Groundwater and Seepage	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
高等岩石力學	Advanced Rock Mechanics	M	A	S	3	ABCEF		土木系 Department Of Civil Engineering	
路面工程特論	Special Topics on Pavement Design	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
高等土壤力學	Advanced Soil Mechanics	M	A	S	3	ABCDEF		土木系	原高等土壤力學

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		1	2	3	4				
								Department Of Civil Engineering	與實習(一)1081改名並改 3 學分 Advanced Soil Mechanics : with Lab Practice(I) 108-1 renamed Credits=3
高等土壤力學與實習(二)	Advanced Soil Mechanics : with Lab Practice(II)	M	AB	S	4	ABCE		土木系 Department Of Civil Engineering	
影像處理	Image Processing	M	A	S	3	ABCEF		土木系 Department Of Civil Engineering	
營建工程專案管理	Construction Project Management	M	A	S	3	BF		土木系 Department Of Civil Engineering	
GPS 衛星定位測量	GPS Satellite Surveying	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
製圖學	Cartography	M	A	S	3	ABCEF		土木系 Department Of Civil Engineering	
數值攝影測量	Digital Photogrammetry	M	A	S	3	ABCEF		土木系 Department Of Civil Engineering	
營建管理資訊系統	Information System for Construction Management	M	A	S	3	BF		土木系 Department Of Civil Engineering	
都市決策支援系統	Urban Decision Support Systems	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
解析航空測量學	Analytical Photogrammetry	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
衛星大地測量	Satellite Godesy	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
營建作業設計與管理	Design and Management of Construction Operations	M	A	S	3	BE		土木系 Department Of Civil Engineering	
高等測量平差法(一)	Advanced Data Adjustment (I)	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	
高等測量平差法(二)	Advanced Data Adjustment (II)	M	A	S	3	ABEF		土木系 Department	

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遙測學	Remote Sensing	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	
應力波動之原理及應用	Theory and Application of Stress Waves	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
橋樑設計	Design of Bridge Structure	M	A	S	3	ABCDE		土木系 Department Of Civil Engineering	
大地地震工程	Geotechnical Earthquake Engineering	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
集水區水文數值模擬	Numerical Simulation in Watershed Scale Hydrology	M	A	S	3	ABCEF		土木系 Department Of Civil Engineering	
高等水文學	Advanced Hydrology	M	A	S	3	ABE		土木系 Department Of Civil Engineering	
深基礎工程	Deep Foundation Engineering	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	
理論土壤力學	Theoretical Soil Mechanics	M	A	S	3	ABDE		土木系 Department Of Civil Engineering	
高等結構動力學	Advanced Structural Dynamics	M	A	S	3			土木系 Department Of Civil Engineering	
高等教育教學實務(一)	Teaching Practice in Higher Education (I)	M	C	S	0	ABCDE		土木系 Department Of Civil Engineering	
高等教育教學實務(二)	Teaching Practice in Higher Education (II)	M	C	S	0	ABCDE		土木系 Department Of Civil Engineering	
瀝青材料	Bituminous Materials	M	A	S	3	ABCD		土木系 Department Of Civil Engineering	
高等混凝土	Advanced Concrete	M	A	S	3	BCDEF		土木系 Department Of Civil Engineering	
混凝土特論	Special study on Concrete	M	A	S	3	BCDEF		土木系 Department Of Civil	

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結構振動控制	Structural Vibration Control	M	A	S	3	ABCDEF		Engineering	原博士班課程 106 改為 碩士班課程 106 Doctor changes to Master' s Program
物理系統數值模擬	Numerical Modeling of Physical Systems in Civil Engineering	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	110 新開 110 new course
水文模式(二)	Rainfall-Runoff Simulation Models (II)	M	A	S	3	ABDEF		土木系 Department Of Civil Engineering	110 新開 110 new course
特殊用途構造特論	Advanced topics on special-purpose structures	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	111 新開 111 new course
智慧物聯網結構健康監測	AIoT structural health monitoring	M	A	S	3	ABE		土木系 Department Of Civil Engineering	111 新開 111 new course
空間結構設計	Design of Spatial Structures	M	A	S	3	ABCD		土木系 Department Of Civil Engineering	111 新開 111 new course
構造混凝土與材料特論	Advanced topics on Structural Concrete and Materials	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	111 新開 111 new course
訊號處理與線性系統分析	Signal Processing and Linear System Analysis	M	A	S	3	ABCEF		土木系 Department Of Civil Engineering	111 新開 111 new course
非線性結構分析	Advanced topics on nonlinear behavior and plasticity	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	112 新開 112 new course
進階結構動力分析	Advanced topics on structural dynamic analysis	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	112 新開 112 new course
水文分析與設計	Hydrological Analysis and Design	M	A	S	3	ABCDEF		土木系 Department Of Civil Engineering	原水資源系統分析(一) 107-1 申請改名 Analysis of Water Resources System(I) 107-1 renamed
工程專案管理與實務	Theory and Practice in Construction Project Management	M	A	S	3	BF		土木系 Department Of Civil Engineering	原營建工程專案管理 106 改名 Construction Project Management 106 renamed
氣候變遷與災害風險評估	Climate Change and Disaster Risk Assessment	M	A	S	3	ACDEF		土木系 Department	108-1 新增課程 108-1 new

承辦人簽章 Signature of Processing Clerk:

規劃單位主管簽章 Head of Planning Unit:

114 年 9 月 26 日 Date:2025/9/26

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 Year of Study	開課單位 Course Offering Unit	備註 Remarks
		1	2	3	4				
								Of Civil Engineering	course
灌溉與排水	Irrigation and drainage	M	A	S	3	ABCE		土木系 Department Of Civil Engineering	108-1 新增課程 108-1 new course
河川水力學	River Hydraulics	M	A	S	3	ABEF		土木系 Department Of Civil Engineering	110-1 新增課程 110-1 new course

※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。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 Processing Clerk:

規劃單位主管簽章 Head of Planning Unit:

114 年 9 月 26 日 Date:2025/9/26