

系所課程地圖 Department Curriculum Map

系所概要 Department

系所名稱 Department Name	環境工程學系(Department of Environmental Engineering)
班別 Division	碩士班(Master's Program)

教育目標 Education Goals

編號 Number	項目內容 Content
A	培育學生的科學基礎、環工專業知識、全球永續發展觀念及終生學習能力。(Cultivate students' scientific foundation, professional knowledge in environmental engineering, global sustainable development concepts, and lifelong learning abilities.)
B	培養學生具有研發創新、工程實務及系統整合之基本能力。(Develop students' fundamental capabilities in research and innovation, engineering practices, and system integration.)
C	培養學生具有合群敬業之態度、服務社會之熱忱及環境保護之使命感。(Foster students' attitude toward collaboration and dedication, enthusiasm for serving society, and a sense of purpose for environmental protection.)

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	環境工程的專業知識。(Expertise in environmental engineering.)	A
B	策劃及執行環境工程專題研究的能力。(Ability to plan and execute research on environmental engineering topics.)	A
C	撰寫環境工程專業論文的能力。(Ability to write professional papers in environmental engineering.)	A
D	創新思考及獨立解決問題的能力。(Innovative thinking and independent problem-solving skills.)	B C
E	與不同領域人員協調整合的能力。(Ability to coordinate and integrate with people from different fields.)	B C
F	良好的國際觀。(Good international outlook.)	A
G	領導、管理及規劃的能力。(Ability to lead, manage and plan.)	A B C
H	終身自我學習成長的能力。(Ability to grow through lifelong self-learning.)	C

※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.
- 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:

年 月 日

Date:

環境工程學系 Department of Environmental 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 Recommend ed Course Division	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									
環工物理原理	Physical Principles in Environmental Engineering	M	A	S	3	ABCDEFGH	1	環工(Environmental Engineering)	
環工化學原理	Chemical Principles in Environmental Engineering	M	A	S	3	ABCDGH	1	環工(Environmental Engineering)	
環工生物原理	Biological Principles in Environmental Engineering	M	A	S	3	ACDFH	1	環工(Environmental Engineering)	
環工數學模式	Numerical Methods in Environmental Engineering	M	A	S	3	ABD	1	環工(Environmental Engineering)	
環工專題討論一	Seminar in Environmental Engineering (I)	M	C	Y	0	CDEFG	1	環工(Environmental Engineering)	
環工專題討論二	Seminar in Environmental Engineering (II)	M	C	Y	0	CDEFG	2	環工(Environmental Engineering)	
碩士論文	Thesis	M	C	Y	6	CEF	2	環工(Environmental 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)

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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									
氣膠學	Aerosol Science	M	A	S	3	ACF	1	環工(Environmental Engineering)	
熱處理技術與污染控制	Thermal Treatment Technology and Pollution Control	M	A	S	2	ABDG	1	環工(Environmental Engineering)	
環境系統分析	Environmental System Analysis	M	A	S	3	BDH	1	環工(Environmental Engineering)	
空氣品質模式	Air Quality Models	M	A	S	3	ABCDGH	1	環工(Environmental Engineering)	
污染物傳送運輸現象	Contaminant Transport in Environmental System	M	A	S	3	ABCDEFGH	1	環工(Environmental Engineering)	
空氣污染物採樣分析	Sampling and Analysis of Air Pollutants	M	AB	S	2	ABCDEFGH	1	環工(Environmental Engineering)	
生物科技與污染防治	Biotechnology and Pollution Control	M	A	S	2	ABCDF	1	環工(Environmental Engineering)	
空氣資源管理	Air Resources Management	M	A	S	3	BCEG	1	環工(Environmental Engineering)	
生物處理程序	Biological Treatment Processes	M	A	S	3	ABDFGH	1	環工(Environmental Engineering)	
有害廢棄物管理	Hazardous Waste Management	M	A	S	3	ABFG	1	環工(Environmental Engineering)	
空氣污染控制理論	Air Pollution Control Theory	M	A	S	3	ABCDEFGH	1	環工(Environmental Engineering)	
環境監測與資訊系統實務	Environmental Monitoring and Information System	M	A	S	3	ABCDGH	1	環工(Environmental Engineering)	
物理化學處理	Physiochemical Treatment	M	A	S	3	ABCDGH	1	環工(Environmental Engineering)	
水質模式分析	Analysis of Water Quality Model	M	A	S	3	ABCDEFGH	1	環工(Environmental Engineering)	
地下水傳輸模式	Groundwater Modelling	M	A	S	3	ABCDE	1	環工(Environmental Engineering)	
高等化學動力及反應器設計	Advanced Chemical Kinetics and Reactor Design	M	A	S	2	ABCD	1	環工(Environmental Engineering)	
環境與職業醫學導論	Introduction to Environmental and Occupational Medicine	M	A	S	3	ABCDEFGH	1	環工(Environmental Engineering)	
啟發式優選技術	Heuristic Optimization Technology	M	A	S	3	BDEF	1	環工(Environmental Engineering)	
微生物反應動力學	Biological Reaction Kinetics	M	A	S	3	ABCDF	1	環工(Environmental Engineering)	
環境復育與自然衰減	Environmental Remediation and Natural Attenuation	M	A	S	3	ABDEGH	1	環工(Environmental Engineering)	
有害廢棄物分析	Analysis of Hazardous Waste	M	A	S	3	ABCDFG	1	環工(Environmental Engineering)	
物化地下水理學	Physical/Chemical Hydrogeology	M	A	S	3	ABC	1	環工(Environmental Engineering)	
地表下污染復育工程	Subsurface Contamination Remediation	M	A	S	3	ABDH	1	環工(Environmental Engineering)	
高級氧化技術	Advanced Oxidation Technology	M	A	S	3	ABC	1	環工(Environmental Engineering)	
環境奈米科技	Environmental Nanotechnology	M	A	S	3	ACDEFG	1	環工(Environmental Engineering)	
環境毒理學	Environmental Toxicology	M	A	S	3	ABCDEFGH	1	環工(Environmental Engineering)	
水回收管理及技術	Water Reuse Management and Technology	M	A	S	3	BCDEFGH	1	環工(Environmental Engineering)	
環境材料分析	Practical surface analysis	M	A	S	3	ABCD	1	環工(Environmental Engineering)	
環境觸媒開發和應用	Development and Applications of Environmental Catalysts	M	A	S	2	ABC	1	環工(Environmental Engineering)	
水及廢水高級氧化處理技術	Advanced Oxidation Processes for Water and Wastewater Treatment	M	A	S	3	ABCDGH	1	環工(Environmental Engineering)	
微生物總體學環工應用	Microbial Omics in Environmental Science	M	A	S	2	ABC	1	環工(Environmental Engineering)	

生物資訊資料庫應用 實作	Bioinformatic Applications in Environmental Engineering	M	A	S	3	ABDEFH	1	環工(Environmental Engineering)	
AI深度學習與環境管理	Deep Learning and Environmental Management	M	A	S	3	ABDEGH	1	環工(Environmental Engineering)	
科技英文寫作入門	Introduction to Scientific English Writing	M	A	S	1	ABCDEFGH	1	環工(Environmental Engineering)	
工業防災	Industrial Disaster Prevention	M	A	S	3	ADE	1	環工(Environmental Engineering)	
災害防治與安全工程	Disaster Prevention and Safety Engineering	M	A	S	3	ADH	1	環工(Environmental Engineering)	
碳捕捉與封存概論	Introduction to Carbon Capture and Storage	M	A	S	3	ABDF	1	環工(Environmental Engineering)	
廢棄物資源化工程	Waste Resourcezation Engineering	M	A	S	3	ACF	1	環工(Environmental Engineering)	
永續決策的環境評估	Environmental Assessment for Sustainable Decision- Making	M	A	S	3	ABDGH	1	環工(Environmental Engineering)	1132新增 (1132 New Course Added) (修 黑米)

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