

國立陽明交通大學土木工程學系 跨域學程實施要點
Department of Civil Engineering
National Yang Ming Chiao Tung University
Implementation Guidelines for Cross-Disciplinary Program

2021年10月06日110學年度第1學期第2次系務會議通過
Passed by the 2nd Session of Department Affairs Meeting in the 1st Semester of Academic Year 2021 dated 2021/10/6

- 一、依據國立陽明交通大學跨域學程實施辦法，國立陽明交通大學土木工程學系(以下簡稱本系)為鼓勵學生進行跨領域學習，建立跨域學習深度，協助學生拓展第二專長，提供學生可以在畢業學分不增加(或僅少量增加)情況下，修畢跨域學程，特訂定本要點。

These Implementation Guidelines are adopted by the Department of Civil Engineering of National Yang Ming Chiao Tung University (NYCU) (hereinafter referred to as the “Department”) based on the NYCU Cross-Disciplinary Program Implementation Regulations, in order to encourage students to conduct and deepen cross-disciplinary study, assist students in expanding their secondary specialty, and provide students with the opportunity to complete the cross-disciplinary program while their graduation credits remain unchanged (or increase insignificantly).

- 二、跨域學程係指由陽明交通大學的學系、研究所、或學院提出模組課程，模組課程應包含該領域基礎核心知識，且總學分數以30學分為原則(最低可為28學分，最高不可超過32學分)，學生修習跨域學程，其課程將包含所屬學系的跨域學程模組課程以及第二專長系所或學院的跨域學程模組課程，並可於畢業證書上加註第二專長模組課程為跨域專長。

The cross-disciplinary programs herein refer to cross-disciplinary module curricula proposed by NYCU departments, graduate institutes, or colleges. Module curricula shall include the core knowledge curriculum of the field, and the total credits will be based on 30 credits (no less than 28 credits and no more than 32 credits). The cross-disciplinary program curriculum will include the cross-disciplinary module curriculum of the student’s department and the department/graduate institute or college of their second specialty. The second specialty can also be added to the diploma as a “Cross-Disciplinary Specialty” after completion of the cross-disciplinary program.

- 三、本要點修業規定

Requirements for study herein

1. 本系學生欲修習跨域學程者

For students of the Department who wish to take the cross-disciplinary program

- (1) 得於在學期間依公告申請時程向本系提出申請，申請時註明欲申請的第二專長系所或學院，申請案經本系課程委員會審查通過後，需送到第二專長系所或學院審查，通過雙邊審查後，方可進入跨域學程。

The application may be submitted to the Department within the time frame announced for application during any semester. The department/graduate institute or college of the second specialty that the student would like to apply for must be specified on the application form. The application shall be sent to the department/graduate institute or college of the second specialty for evaluation after approval by the Curricular Committee of the Department. Students can only take the cross-disciplinary program after evaluation by both sides.

- (2) 本系學生修習跨域學程的課程，列示於『土木工程學系跨域學程本系學生必修科目表』，其課程包含：校必修(含共同必修24學分)，本系基礎必修課程(35學分)，本系跨域模組課程(32學分)，專業選修領域(至少9學分)，以及第二專長系所或學院的跨域模組課程(以下簡稱他系跨域模組課程)(28-32學分)，畢業學分至少133學分。他系跨域模組課程認定為跨域專長，於畢業證書本系名稱後加註此跨域專長。

The cross-disciplinary program curricula to be studied by students of the Department are listed in the Required Courses for Students of the Department Taking the Cross-Disciplinary Program in the Department of Civil Engineering. The courses include required courses of the university (including 24 credits for general education subjects), required basic curriculum of the Department (35 credits), cross-disciplinary module curriculum of the Department (32 credits), elective professional fields (at least 9 credits), and the cross-disciplinary module curriculum of the second specialty department/graduate institute or college (hereinafter referred to as cross-disciplinary module curriculum of another department) (28-32 credits) with at least 133 graduate credits. The cross-disciplinary module curriculum of another department will be recognized as a cross-disciplinary specialty, and will be specified after the name of the Department on the diploma.

- (3) 本系學生修習跨域學程，若無法修畢跨域學程課程，得選擇放棄跨域學程，改修習原土木工程學系的學士學位課程。

Students of the Department who study the cross-disciplinary program but fail to complete the program may choose to give up the cross-disciplinary program and study the original bachelor's degree program of the Department of Civil Engineering instead.

2. 外系學生欲修習跨域學程且選擇本系做為其跨域專長者

Students of other departments who wish to study the cross-disciplinary program and choose the Department as their cross-disciplinary specialty department,

- (1) 得於在學期間依公告申請時程向其所屬學系（以下簡稱原系）提出申請，通過原系以及本系的雙邊審查後，方可進入跨域學程。

may submit the application to their own departments (hereinafter referred to as the “Original Department”) within the announced application time frame, and may take the cross-disciplinary program only after being approved by both the Original Department and the Department.

- (2) 外系學生修讀跨域學程且選擇本系做為其跨域專長者，其課程包含：校必修(含共同必修24學分)，原系基礎必修課程，原系跨域模組課程，以及列示於『土木工程學系跨域模組課程必修科目表』的模組課程，並於畢業證書原系名稱後加註「土木工程」為其跨域專長。

For students of other departments who wish to study the cross-disciplinary program and choose the Department as their cross-disciplinary specialty department, the curriculum shall include required courses of the university (including 24 credits of general education subjects), basic required curriculum of the Original Department, and the cross-disciplinary module curriculum of the Original Department, and the module curriculum listed in the Required Course List for the Cross-Disciplinary Module Curriculum in the Department of Civil Engineering. The curriculum, “Civil Engineering”, will be specified after the name of the Original Department on the diploma, as their cross-disciplinary specialty.

- 四、本系指定一名專任教師擔任跨域學程導師，與外系所或學院的跨域學程導師組成導師群，專責輔導跨域學程的學生。

The Department will assign a full-time teacher to be the tutor of the cross-disciplinary program, and form a tutor group together with the cross-disciplinary program tutors of the other department/graduate institute or college, dedicated to providing counseling services to the cross-disciplinary program students.

- 五、為鼓勵不同系所或學院合作提出跨域共授課程，兩位以上教師開授跨領域之創新整合式課程，得依本校教師授課鐘點核計原則第9條第6款規定，教師的授課鐘點數可按到場時數計，但以開課前該門課程實際簽呈為依據。

In order to encourage different departments/graduate institutes or colleges to work with each other to propose cross-disciplinary co-teaching courses, two or more teachers who offer innovative integrated cross-disciplinary courses may be entitled to hourly pay calculated subject to their teaching hours on the site pursuant to the Subparagraph 6, Article 9 of NYCU Principles for Verifying and Calculating Teachers' Teaching Hours, provided that the pay be granted on the grounds of the request for approval of the given course before it is offered.

- 六、本要點如有未盡事宜，悉依本校學則及其他相關規定辦理。

Matters not provided herein shall be governed by NYCU Academic Regulations and other relevant requirements.

七、本要點經校級課程委員會通過並提教務會議核備後實施，修訂時亦同。

These Guidelines are approved by the Curriculum Committee of the University and implemented upon approval by the Academic Affairs Meeting. The same shall apply where the Guidelines are amended.

土木工程學系跨域學程 本系學生 必修科目表 (A)

Required Course List for the Students of the Department of Civil Engineering Studying the Cross-Disciplinary Program in the Department (A)

類別 Category	科目名稱 Course Name	學分 Credits	開課系所 Department	備註 Remarks	
本系基礎必修 (35學分) Basic required courses of the Department (35 Credits)	微積分(一) Calculus (I)	3	本校 NYCU		
	微積分(二) Calculus (II)	3			
	物理(一) Physics (I)	3			
	物理(二) Physics (II)	3			
	物理實驗(一) Physics Labs (I)	1			
	物理實驗(二) Physics Labs (II)	1			
	工程圖學(一) Engineering Graphics (I)	1			土木系 Department of Civil Engineering
	工程圖學(二) Engineering Graphics (II)	1			
	計算機概論 Introduction to Computer Science	3			
	工程材料學 Engineering Materials	3			
	工程材料實驗 Engineering Materials Labs	1			
	應用力學 Applied Mechanics	3			
	測量實習(一) Surveying Practice (I)	1			
	工程數學(一) Engineering Mathematics (I)	3			
	工程數學(二) Engineering Mathematics (II)	3			
	土壤力學實驗 Soil Mechanics Labs	1			
	流體力學實驗 Fluid Mechanics Labs	1			
	本系跨域模組 (32學分) Cross- disciplinary	測量學(一) Surveying (I)	2		
		材料力學 Mechanics of Materials	3		

module curriculum of the Department (32 Credits)	土壤力學 Soil Mechanics	3		
	結構學(一) Theory of Structures (I)	3		
	工程經濟學 Engineering Economics	3		
	流體力學 Fluid Mechanics	3		
	基礎工程 Foundation Engineering	3		
	工程地質學 Engineering Geology	3		
	水文學 Hydrology	3		
	鋼筋混凝土學 Reinforced Concrete	3		
	土木工程實作專題 Civil Engineering Capstone Project	3		
	他系跨域模組 (28-32學分) Cross-disciplinary module curriculum of another department (28-32 credits)	Please choose and complete either of the cross-disciplinary module curriculum offer by departments or colleges of NYCU. 本校各系所或學院所提供之跨域模組學程，擇一修畢	28-32	
本系專業選修 Elective professional course of the Department		至少9 At least 9	至少9學分，且需為大學部或研究所專業選修(含必選課程「水利工程」) At least 9 credits, and must be the elective professional course for the undergraduate or graduate students (including the required course, "Hydraulic Engineering").	
共同必修 General Education Subjects		24	校必修(含共同必修24學分(含外語課程必修6學分)，至多採計40學分)[註] Required courses of the university (including 24 credits for general education subjects (including 6 credits for the required foreign language courses), but no more than 40 scores will be adopted) [Note]	
最低畢業學分 Minimum graduation credits		133		

註：本校共同必修科目表規定，外語課程必修至少6學分。如大學部學生修習共同必修學分數超過24學分以上，本校至多可採至40學分於最低畢業學分內，但各學系另有規定者，從其規定。

Note: According to NYCU's required course list, at least 6 credits of foreign language courses are required. For undergraduate students who take more than 24 credits of general education courses, NYCU may treat up to 40 credits as the minimum number of credits to graduate, unless otherwise provided by the relevant department.

土木工程學系跨域模組課程 必修科目表 (B)

Required Course List for the students of the Department of Civil Engineering studying the cross-disciplinary module curriculum (B)

類別 Category	科目名稱 Course Name	學分 Credits	開課系所 Department	備註 Remarks
本系跨域模組 (30學分) Cross-disciplinary module curriculum of the Department (30 Credits) 修畢於畢業證書加 註『跨域專長：土 木工程』 The curriculum, “Civil Engineering”, will be specified after the name of the Original Department on the diploma, as their cross-disciplinary specialty.	測量學(一) Surveying (I)	2	土木系 Department of Civil Engineering	至少30學分 At least 30 credits
	測量學(二) Surveying (II)	2		
	工程材料學 Engineering Materials	3		
	材料力學 Mechanics of Materials	3		
	中等材料力學 Mechanics of Intermediate Materials	3		
	土壤力學 Soil Mechanics	3		
	結構學(一) Theory of Structures (I)	3		
	工程經濟學 Engineering Economics	3		
	營建管理 Construction Management	3		
	流體力學 Fluid Mechanics	3		
	基礎工程 Foundation Engineering	3		
	工程地質學 Engineering Geology	3		
	水文學 Hydrology	3		
	鋼筋混凝土學 Reinforced Concrete	3		
	鋼結構設計 Structural Steel Design	3		
水利工程 Hydraulic Engineering	3			
總學分 Total Credits	30			