

**中華大學土木工程學系110級學士班四年課程規劃表**  
**Bachelor's Curriculum in Department of Civil Engineering For 2021**

110.07.19 109學年度第2學期第3次系課規會議討論通過 Enacted at the 3rd Department Curriculum Committee of academic year 119, on July 19, 2021.

110.08.31 110學年度第1次院課規會議審議通過 Approved at the 1st College Curriculum Committee of academic year 110, on August 31, 2021.

第一學年 Freshman				第二學年 Sophomore				第三學年 Junior				第四學年 Senior			
上學期 1st Semester		下學期 2nd Semester		上學期 1st Semester		下學期 2nd Semester		上學期 1st Semester		下學期 2nd Semester		上學期 1st Semester		下學期 2nd Semester	
課程名稱 Course	學分數 Credit	課程名稱 Course	學分數 Credit	課程名稱 Course	學分數 Credit	課程名稱 Course	學分數 Credit	課程名稱 Course	學分數 Credit	課程名稱 Course	學分數 Credit	課程名稱 Course	學分數 Credit	課程名稱 Course	學分數 Credit
<b>必修共同課程(28學分)，包括英文課程(6學分)和通識課程(22學分)。Obligatory Common Courses (28 Credits) including English Courses (6 Credits) and General Courses (22 Credits).</b>															
英文一 Freshman English (I)	2	英文二 Freshman English (II)	2	英文三 Sophomore English I	1	英文四 Sophomore English II	1	通識 General Courses	4	通識 General Courses	2				
體育(一) Physical Education (I)	0	體育(二) Physical Education (II)	0	通識 General Courses	4	通識 General Courses	4								
通識 General Courses	4	通識 General Courses	4												
<b>院核心必修課程(10學分) College Obligatory Courses (10 Credits)</b>															
設計(一) Basic Design (I)	4	APP開發與應用 APP Design and Application	2												
電腦繪圖(一) Computer Graphics (I)	2	電腦繪圖(二) Computer Graphics (II)	2												
<b>數學與基礎必修課程(22學分) Math. and Fundamental Obligatory Courses (22 Credits)</b>															
微積分(一) Calculus (I)	2	微積分(二) Calculus (II)	2	工程數學(一) Engineering Mathematics (I)	2	工程數學(二) Engineering Mathematics (II)	2								
土木工程史 Civil Engineering History	2	工程力學 Engineering Mechanics	3	材料力學 Strength of Materials	3	結構學 Theory of Structures	3								
工程材料試驗 Engineering Materials Test	1														
科技物理 Technological Physics	2														
<b>工程專業必修課程(23學分) Civil Engineering Obligatory Courses (23 Credits)</b>															
工程材料 Construction materials	2	測量學 Surveying	2	工程地質 Engineering Geology	2	土壤力學 Soil Mechanics	3	鋼筋混凝土 Reinforced Concrete	3	施工法 Construction Methods	2	畢業專題(一) Special Topics (I)	1	畢業專題(二) Special Topics (II)	1
		測量實習 Surveying Practice	1			流體力學 Fluid Mechanics	3	基礎工程 Foundation Engineering	3						
<b>工程專業選修課程(至少36學分) Civil Engineering Elective Courses (At least 36 Credits)</b>															
永續工程概論 Introduction to Sustainable Engineering	2	工程英文 Engineering English	2	工程測量 Engineering Surveying	2	橋梁工程 Bridge Engineering	2	結構動力學 Structural Dynamics	2	鋼結構設計 Design of Steel Structures	2	預力混凝土設計 Prestressed Concrete Design	2		
工程倫理 Engineering Ethics	2	水土保持工程 Soil and Water Conservation Engineering	2	工程測量實習 Engineering Surveying Practice	1	職業安全衛生法規 Regulations of Occupational Safety and Health	2	結構矩陣分析 Matrix Method of Structural Analysis	2	建築抗震設計 Building Seismic Design	2	岩石力學與工程 Rock Mechanics and Engineering	2		
建築資訊模型(一) Introduction to Building Information Modeling (I)	2	綠色工程材料 Green Construction Materials	2	營建法規 Building Codes	2	結構安全評估 Assessment of Structural Integrity	2	隧道工程 Tunnel Engineering	2	邊坡工程 Slope Engineering	2	工程契約與爭議調解 Construction Contract and Dispute Resolution	2		
		建築資訊模型(二) Introduction to Building Information Modeling (II)	2	建築資訊模型(三) Introduction to Building Information Modeling (III)	2	建築資訊模型(四) Introduction to Building Information Modeling (IV)	2	營建安全 Construction Safety	2	建築資訊模型整合應用 Building Information Model Integration Application	2	基樁非破壞檢測科技應用與實務 Application and Practice of Nondestructive Test Technology for Piles	2		
		水文學 Hydrology	3	多工程結構實驗室 Multifunction Structure Laboratory	1	土壤力學實驗 Soil Mechanics Laboratory	1	防災科技 Technology for Disaster Mitigation	2	施工圖 Working Drawing	2	數值分析 Numerical Analysis	2		
				非破壞檢測科技 Non-destructive Inspection for Civil Technology	3	水土保持規劃設計 Planning and Design of Soil and Water Conservation	3	工程估價 Construction Estimating	2	專案管理概論 Introduction to Project Management	2				
				土木工程品質管制 Quality Control of Civil Engineering	2	監工與施工實務 Supervisor in Construction Practice	2								
				結構監測實務 Structural Monitoring Technology	2	營建管理 Construction management	2								
						專案管理概論 Introduction to Project Management	2								
<b>校定必選及跨域外系選修(9學分) Common Required selective Courses and Foreign Department Elecuive Courses (9 Credits)</b>															
跨院體驗微學分 Intercollege Micro Programs	3											企業實習 Employment Internship	9	就業實習 Enterprise Internship	9
														其他非土木系所開課程 Other Foreign Department Courses	

備註(Notes)：

(1) 畢業規定128學分：包含校共同通識28學分、院核心必修10學分、數學與基礎必修22學分、工程專業必修23學分、工程專業選修至少36學分、及跨域外系選修9學分。跨域外系選修9學分，含「跨院體驗微學分」（外籍生及轉學生免修），但不含通識、體育、及軍訓課程。Graduation requirements are 128 credits: including 28 credits of common general studies, 10 credits of core compulsory courses, 22 credits of compulsory mathematics and basic courses, 48 credits of compulsory engineering engineering majors, at least 11 credits of engineering electives, and 9 credits of cross-domain electives. 9 credits of elective courses from cross-domain external departments, including "Intercollege Micro Programs" (foreign students and transfer students are exempted), but not include general education, physical education, and military training courses.

(2) 課程設計比例：院核心必修及數學與基礎必修課程(10+23)/128=25.78%、工程專業課程(23+36)/128=45.31%、跨域外系選修課程9/128=7.03%、通識課程28/128=21.88%。Curriculum design ratio: core compulsory courses in the college and compulsory mathematics and basic courses (10+23)/128=25.78%, engineering professional courses (23+36)/128=45.31%, cross-domain elective courses from external departments 9/128=7.03%, General courses 28/128=21.88%.

(3) 依據本校「學生基本能力指標實施辦法」第四條規定，本系資訊應用課程為【APP開發與應用】，學生需符合「中華大學學生資訊應用能力檢定實施辦法」之規定通過檢核標準，始符合畢業資格。According to Article 4 of the "Implementation Measures for Student Basic Ability Indicators" of our school, the information application course of this department is [APP Design and Application]. Students must meet the provisions of the "Implementation Measures for Student Information Application Ability Test of Chung Hua University" and pass the verification standards. Eligible for graduation.

(4) 依據本校「學生基本能力指標實施辦法」第四條規定，本系創新與創意基礎課程為【設計(一)】，【畢業專題(二)】為創新創意相關專題課程，學生需符合「中華大學創新與創意課程實施辦法」之規定通過檢核標準，始符合畢業資格。According to Article 4 of the "Implementation Measures for Basic Student Ability Indicators" of our school, the basic courses of innovation and creativity in this department are [Basic Design ( I )] and [Special Topics (II)] are special courses related to innovation and creativity. Students must meet the requirements of "China University Only students who pass the inspection standards in accordance with the "Innovative and Creative Curriculum Implementation Measures" are eligible for graduation.

(5) 須依據「中華大學學生基本能力指標實施辦法」、「中華大學建築與設計學院學生基本能力指標實施辦法」、「中華大學土木工程學系學生基本能力指標實施辦法」完成修業規定，始符合畢業資格。Students must complete the study requirements in accordance with the "Implementation Measures for the Basic Ability Indicators of Students of the Chung Hua University", "Implementation Measures of the Basic Ability Indicators of Students of the School of Architecture and Design of the Chung Hua University", and "Implementation Measures of the Basic Ability Indicators of Students of the Department of Civil Engineering of the Chung Hua University" to be eligible for graduation.

(6) 取得本校核定之土木、建築相關B級以上專業證照乙張，始符合畢業資格。Only those who have obtained a B-level or above professional certificate related to civil engineering and construction approved by our school are eligible for graduation.

(7) 以上課程資料，以當學期實際開課為主。The above course information is based on the actual courses offered in the current semester.