

土木工程學系
114 學年度入學新生課程規劃表

校訂必修(通識核心課程)

共計26學分

類別		課程/學門	學分	開課年級
基本知能 (12)	外國語文學門(Q)	英文(一)	4	一
		大二外文自由選	4	二
	語文表達	中國語文能力表達	2	一下
	學習與發展(N)	大學學習	1	一上
	社團學習與實作(K)	課外活動與團隊發展	1	一下
通識核心課程 (12)	探索永續 / 人工智慧導論		1/1	一上
	人文領域	文學經典學門(L)	2	每學門至多修習 2 科
		歷史與文化學門(P)		
		哲學與宗教學門(V)		
		藝術欣賞與創作學門(M)		
	社會領域	全球視野學門(T)	2	
		未來學學門(R)		
		社會分析學門(W)		
		公民社會及參與學門(S)		
	科學領域	資訊教育學門(O)	2	
		全球科技革命學門(Z)		
		自然科學學門(U)		
全民國防教育軍事訓練（一）-國防科技			1	不計入畢業學分
體育			4	不計入畢業學分
校園與社區服務學習			2	一

系訂必修

共計65學分

科目名稱	學分數	開課年級
土木工程概論	1	一上
微積分	3	一上
普通物理	2	一上
工程圖學及電腦繪圖	2	一上
測量學(一)	2	一上
測量實習(一)	1	一上
應用力學	3	一下
基礎工程數學	3	一下
普通物理	2	一下
測量學(二)	2	一下
土木工程概念設計	1	一下
工程材料	2	二上
工程材料實驗	1	二上
材料力學	3	二上
工程數學(一)	3	二上
程式語言	2	二上
土壤力學	3	二下
土壤力學實驗	1	二下
結構學	3	二下
流體力學	3	二下
營建管理	2	二下
運輸工程	3	三上
鋼筋混凝土	3	三上
數值方法	2	三上
工程地質	3	三上
工程統計學	2	三下
土木建築施工法	2	三下
基礎工程	3	三下
木工程整合性專業實作	2	四上

系選修

09學分

科目名稱	學分數	開課年級
測量實習(二)	1	一下
動力學	2	二上
BIM工程應用及程式基	2	二上
材料力學(二)	2	二下
工程數學(二)	3	二下
土壤力學(二)	3	三上
結構學(二)	3	三上
工程計算軟體應用	2	三上
工程經濟學	2	三上
專案規劃與控制	2	三上
結構實驗	2	三上
鋼結構設計	3	三上
結構矩陣分析	3	三下
鋼筋混凝土(二)	3	三下
公路工程	2	三下
電腦輔助工程技術與實	2	三下
3D資訊模型電腦輔助	3	三下
專題討論	1	三下
建築結構設計	2	四上
預力混凝土	2	四上
營建工程估價	2	四上
生態保育工法	2	四上
企業實習(教務處學分)	3	四上
低碳綠建築	2	四上
橋樑設計	2	四上
風工程導論	2	四上
土壤改良	2	四上
初等結構動力學	2	四下
軌道工程	2	四下
隧道工程	2	四下
地理資訊系統之工程應	2	四下
工程法律與契約	2	四下
地工合成物在工程上之應用	2	四下

◎系選修課程依當學期開課課程為主，以上列表僅供參考。

校訂必修：26學分
系訂必修：65學分
系選修：09學分
自由選修：28學分
畢業總學分數：128學分

Department of Civil Engineering
114 Academic Year Freshman Course Planning Table

School Compulsory Courses				26 Credits	
Field		Course Name	credit	Grade	
Fundamental courses (12)	Foreign Language (Q)	English (I)	4	1 st year	
		optional foreign language for sophomore year	4	2nd year	
	Ability of Expressing in Spoken and Written Chinese	Ability of Expressing in Spoken and Written Chinese	2	1 st year	
	Learning and Development (N)	Learning in University	1	1 st year	
	Learning and Practice of Club (K)	Learning and Practice of Club	1	1 st year	
General Education & Core Courses (12)	Exploring Sustainability/INTRODUCTION TO ARTIFICIAL INTELLIGENCE		1/1	1 st year	
	Humanity categories	Classics in World Literature (L)	2	Each part from categories only can take up to 2 subjects for 4 credits.	
		History and Culture(P)			
		Philosophy and Religion (V)			
		Arts Appreciation and Invention (M)			
	Science categories	Global Outlook (T)	2		
		Futures Studies (R)			
		Social Analysis (W)			
		Civil Society and Participation (S)			
	Science categories	Information & Computer Education (O)	2		
		Global Technology Revolution (Z)			
		Natural Sciences (U)			
	All-Out Defense Education Military Training and Nursing				
Physical Education			4	Not counted toward graduation credits.	
Campus and Community Service-Learning			2	1 st year	

Department Compulsory Courses			65 credits	
Course Name		credit	Grade	
INTRODUCTION TO CIVIL ENG.		1	1 st year	
CALCULUS		3	1 st year	
GENERAL PHYSICS		2	1 st year	
ENGINEERING GRAPHICS AND COMPUTER DRAWING		2	1 st year	
SURVEYING		2	1 st year	
SURVEYING LAB. (I)		1	1 st year	
APPLIED MECHANICS		3	1 st year	
BASIC ENGINEERING MATHEMATICS		3	1 st year	
GENERAL PHYSICS		2	1 st year	
SURVEYING II		2	1 st year	
CIVIL ENGINEERING CONCEPTUAL DESIGN		1	1 st year	
ENGINEERING MATERIALS		2	2nd year	
ENGINEERING MATERIALS LABORATORY		1	2nd year	
STRENGTH OF MATERIALS		3	2nd year	
ENGINEERING MATHEMATICS (I)		3	2nd year	
COMPUTER PROGRAMMING		2	2nd year	
SOIL MECHANICS		3	2nd year	
SOIL MECHANICS LABORATORY		1	2nd year	
STRUCTURAL THEORY		3	2nd year	
FLUID MECHANICS		3	2nd year	
CONSTRUCTION MANAGEMENT		2	2nd year	
TRANSPORTATION ENGINEERING		3	3rd year	
REINFORCED CONCRETE		3	3rd year	
NUMERICAL METHOD		2	3rd year	
ENGINEERING GEOLOGY		3	3rd year	

ENGINEERING STATISTICS	2	3rd year
CONSTRUCTION METHODS	2	3rd year
FOUNDATION ENGINEERING	3	3rd year
CIVIL ENGINEERING CAPSTONE PROJECT	2	4th year

Department Elective Courses			09 Credits	
Course Name		credit	Grade	
SURVEYING LAB. (II)		1	1 st year	
DYNAMICS		2	2nd year	
BIM APPLICATION AND PROGRAMMING FUNDAMENTALS FOR ENGINEERS		2	2nd year	
STRENGTH OF MATERIALS(II)		2	2nd year	
ENGINEERING MATHEMATICS (II)		3	2nd year	
SOIL MECHANICS (II)		3	3rd year	
STRUCTURAL THEORY (II)		3	3rd year	
SOFTWARE APPLICATION IN ENGINEERING COMPUTING		2	3rd year	
ENGINEERING ECONOMICS		2	3rd year	
PROJECT PLANNING AND CONTROL		2	3rd year	
STRUCTURAL LAB.		2	3rd year	
STEEL STRUCTURE DESIGN		3	3rd year	
STRUCTURE MATRIX ANALYSIS		3	3rd year	
REINFORCED CONCRETE (II)		3	3rd year	
HIGHWAY ENGINEERING		2	3rd year	
COMPUTER-AIDED ENGINEERING TECHNOLOGY AND EXCERISE		2	3rd year	
3D MODELING AND COMPUTER AIDED DESIGN		3	3rd year	
SEMINAR		1	3rd year	
STRUCTURE DESIGN		2	4th year	
PRESTRESSED CONCRETE DESIGN		2	4th year	
CONSTRUCTION ESTIMATING		2	4th year	
ECOLOGICAL ENGINEERING METHODS		2	4th year	
PRACTICUM IN EDUCATIONAL TECHNOLOGY		3	4th year	
LOW CARBON GREEN BUILDING		2	4th year	
BRIDGES DESIGN		2	4th year	
INTRODUCTION TO WIND ENGINEERING		2	4th year	
SOIL IMPROVEMENT		2	4th year	
JUNIOR STRUCTURAL DYNAMICS		2	4th year	
TRACKWORK ENGINEERING		2	4th year	
TUNNEL ENGINEERING		2	4th year	
INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEM		2	4th year	
CONSTRUCTION LAW AND CONTRACT		2	4th year	
APPLICATION OF GEOSYNTHETICS		2	4th year	

◎ The department elective courses are mainly based on the courses offered in the current semester. The above list is for reference only. °

- (1) Total credits of compulsory subjects: 91 credits (including 26 credits of general education courses)
- (2) Minimum total number of credits required for elective courses in this department: 9 credits.
- (3) Total credits of other elective courses: 28 credits
- (4) Total credits for graduation: 128 credits