

# I-SHOU UNIVERSITY Department of Civil Engineering

## 4-Year Curriculum for Students Admitted in Academic Year 2022

\*本系總畢業學分數為 128 學分，分下列七項：

### Required Credits for Graduation: 128 Credits

1. 通識核心課程必修 18 學分 GE Core 18 Credits
2. 通識博雅課程選修 10 學分 GE Elective 10 Credits
3. 服務教育課程必修 0 學分 Service Education Courses 0 Credit
4. 體育健康課程必修 0 學分 Physical Education Courses 0 Credit
5. 院必修課程 8 學分 International College Core 8 Credits
6. 系必修課程 59 學分：主題課群 18 學分、土木專業必修 39 學分、總結課程 2 學分  
Department Core 59 Credits: Including Theme-based 18 Credits, Department- required Courses 39 Credits, Capstone Courses 2 Credits
7. 系選修課程 18 學分  
Department Elective Courses 18 Credits
  - (1) 土木專業選修課程 13 學分  
Department of Civil Engineering Elective 13 credits
  - (2) 發現新穎材料、開創土木新世紀(二選一) 5 學分  
Discovering New Materials 5 credits、Venturing in Construction Industry 5 credits (Pick one of two)
8. 其他選修 15 學分  
Other Electives 15 Credits, including courses from other departments.

備註 Note:

1. 學生於修業年限內，除須修滿總畢業學分外，並應通過本系「英語能力」畢業資格檢定作業規定，方具畢業資格。  
1. Students are required to meet the requirements set by the Department for “English Proficiency,” “Information Competency,” and “Professional Certification,” in addition to earning the required number of credits to be eligible for graduation.
2. 學生於畢業至少應修畢一門外院共同基礎核心必修課程，並以實際修畢之學分數承認為通識博雅學分，以 4 學分為上限。（各院共同基礎核心必修課程表，請參閱課務組網頁公告）  
2. Before graduation, students are required to take at least one required cornerstone course offered by another college. The credits earned from such courses may be recognized as part of the credits under the category of Liberal Arts Education, but only a maximum of four credits will be recognized accordingly. (For more details about required cornerstone course offered by different colleges, please refer to the announcement on the website of the Curriculum Section.)
3. 鼓勵同學利用其他課程修習跨院系學分學程或發展其他多元能力。  
3. Encourage students to participate in different programs, developing diverse abilities

大一課程表(111) Freshman Year (2022)

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選修 (C/E)	備註 Remark
通識必修 GE Core	A93A17	服務教育(一) Service Education (I)	0		必/C	
	A93A18	服務教育(二) Service Education (II)		0	必/C	
	A93A22	華語文學 1.0: 閱讀與敘事溝通 Chinese Literature 1.0- Reading, Narration and communication		2	必/C	Core
	A93A30	實用英語<一> English in Practice I	1		必/C	Core
	A93A31	實用英語<二> English in Practice II		1	必/C	Core
	A93A28	健康醫學密碼 Unraveling the Mystery of Health	2		必/C	Core
	A93A20	程式設計 Programming		2	必/C	Core
	A93A21	全球化之公民素養 Civic Literacy in the Era of Globalization		2	必/C	Core
	A93A29	智慧科技密碼 Secret Codes in Intelligent Technologies		2	必/C	Core
院必修 IC Core	A83813	微積分(一) Calculus (I)	3		必/C	
	A83815	普通物理(一) Physics(I)	3		必/C	
	A83E02	產業科技導論與體驗 Introduction to Industrial Technology		2	必/C	
系必修 IF Core	A06193	工程識圖 Introduction to Engineering drawing	2		必/C	
	A06131	測量學 Surveying	3		必/C	
	A06223	測量實習(一) Surveying Practice(I)	1		必/C	
	A06129	電腦輔助設計與實習 Computer-aided -design practice	1		必/C	
	A06299	創新設計方法 AI Applications In Civil Engineering	2		必/C	
	A06143	發現土木 Discovering Civil Engineering	1		必/C	
	A06224	測量實習(二) Surveying Practice(II)		1	必/C	
	A06176	解構工程力學-理論 Resolve Engineering Mechanics -Theories		3	必/C	主題課群 Theme-based course
A06180	解構工程力學-實作 Resolve Engineering Mechanics -Implementation		3	必/C	主題課群 Theme-based course	
系選修 IF Elective	A06294	環境化學 Environmental Chemistry		3	選/E	
	A06195	生態工程 Ecological Engineering		2	選/E	
本學年度必修學分數 Total Required credits for this year			37			

**大二課程表(112) Sophomore Year (2023)**

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選修 (C/E)	備註 Remark
通識必修 GE Core	A93A23	華語文學 2.0：思辨與文案創作 Chinese Literature 2.0- Critical thinking and creativity in writing	2		必/C	Core
	A93A32	實用英語<三> English in Practice III	2		必/C	Core
	A93A33	實用英語<四> English in Practice IV		2	必/C	Core
	A93A15	體育（一） Physical Education (I)	0		必/C	
	A93A16	體育（二） Physical Education (II)		0	必/C	
系必修 IF Core	A06296	結構工程特論一 Special topics on Structural Engineering I	2		必/C	
	A06231	應用數學特論一 Special topics on Engineering Mathematics	2		必/C	
	A06297	探索地工領域-理論 Explore Geotechnical Engineering -Theories	3		必/C	主題課群 Theme-based course
	A06298	探索地工領域-實作 Explore Geotechnical Engineering - Implementation	3		必/C	主題課群 Theme-based course
	A06523	大地工程特論一 Special Topics on Geotechnical Engineering I		3	必/C	
	A06236	應用數學特論二 Special topics on Engineering Mathematics II		2	必/C	
	A06243	流體力學與實驗 Fluid Mechanics and Experiment		3	必/C	
	A06250	設計工程結構-理論 Design Structures-Theories		3	必/C	主題課群 Theme-based course
	A06251	設計工程結構-實作 Design Structures-Implementation		3	必/C	主題課群 Theme-based course
系選修 IF Elective	A06617	工程生態學 Engineering Ecology		2	選/E	
	A06491	施工計畫與估價 Construction Planning and Cost Estimation		2	選/E	
	A06295	環境化學實驗 Environmental Chemistry Laboratory		1	選/E	
	A06398	建築工程概論 Introduction to Architectural Engineering		3	選/E	
	A06525	土木應用科技導讀 Guide reading of applicable technology for civil engineering		3	選/E	
<b>本學年度必修學分數 Total Required credits for this year</b>			<b>30</b>			

**大三課程表(113) Junior Year (2024)**

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選修 (C/E)	備註 Remark
系必修 IF Core	A06325	結構工程特論二 Special topics on Structural Engineering II	3		必/ C	
	A06241	工程管理特論 Special topics on Construction Management	2		必/ C	
	A06238	水文學與實驗 Hydrology and Experiment	3		必/ C	
	A06302	交通工程特論 Special topics on Construction Management	2		必/ C	
	A06323	環境工程 Environmental Engineering		3	必/ C	
	A06521	工程統計學 Engineering Statistics		3	必/ C	
系選修 IF Elective	A06309	發現新穎材料 Discovering New Materials	5		選/ E	主題課群(2選1) Theme-based course( Pick one of two )
	A06310	開創土木新世紀 Venturing in Construction Industry		5	選/ E	
	A06688	中等結構學 Intermediate Structural Analysis		3	選/ E	
	A06659	運輸工程 Transportation Engineering		3	選/ E	
	A06411	邊坡工程 Slope Engineering		3	選/ E	
	A06678	綠建築 Green Buildings		3	選/ E	
	A06797	廢棄物處理工程 Waster Management		2	選/ E	
	A06677	給水與污水工程 Water Supply and Waste Waste Treatment		3	選/ E	
	A06392	土木施工學 Construction Engineering		3	選/ E	
	A06412	專案管理 Project Management		3	選/ E	
	A06357	瀝青混凝土配比設計 Asphalt Concrete Design		2	選/ E	
	A06686	工程財務管理 Engineering Financial Management		3	選/ E	
	A06334	水土保持學 Soil and Water Conservation		3	選/ E	
	A06413	軌道運輸系統 Rail Transportation System		3	選/ E	
	A06145	AI在土木工程之應用 AI Applications In Civil Engineering		2	選/ E	
<b>A06524</b>	<b>大地工程特論二 Special Topics on Geotechnical Engineering II</b>		2	選/ E		
<b>本學年度必修學分數 Total Required credits for this year</b>			<b>16</b>			

大四課程表(114) Senior Year (2025)

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選修 (C/E)	備註 Remark
系必修 IF Core	A06511	畢業專題 Independent Study	2		必/C	Capstone
	A06420	英語能力 English Proficiency Enhancement	0		必/C	畢業門檻 Graduation threshold
系選修 IF Elective	A06415	鋼結構設計與施工 Steel Structure Design and Construction		3	選/E	
	A06432	結構動力學 Dynamics of Structures		3	選/E	
	A06027	環境規劃與管理 Environmental Planning and Management		2	選/E	
	A06774	空氣污染控制與噪音管制 Air Pollution and Noise Control		3	選/E	
	A06737	大地施工與管理 Geotechnical Engineering and Construction Management		3	選/E	
	A06481	應用基礎工程 Applied Foundation Engineering		3	選/E	
	A06795	結構耐震評估與補強 Seismic Assessment and Retrofit Techniques of Structures		3	選/E	
	A06769	道路生態工程 Road Ecological Engineering		3	選/E	
	A06788	生態調查評估與工程應用 Ecological assessment and Engineering applicaion		3	選/E	
	A06814	土壤及地下水整治 Soil and Groundwater Remediation		3	選/E	
	A06437	鋪面工程 Pavement Engineering		3	選/E	
	A06493	土木法規 Civil Engineering Regulations		3	選/E	
	A06439	工程品質管理 Quality Control for Civil Engineering		3	選/E	
	A06830	實務實習 Practical Internship		3	選/E	
	A06829	工程實習 Engineering Internship		3	選/E	
	A06426	建築資訊模型 Building Information Modeling		3	選/E	
	A06336	地理資訊系統 Geographic Information Systems		3	選/E	
	A06768	環境大地工程 Environmental Geotechnical Engineering		3	選/E	
	A06738	高等土壤力學 Advanced Rock Mechanics		3	選/E	
	A06409	設施規劃與管理 Facility Planning and Management		2	選/E	
	A06744	高等岩石力學 Advanced Rock Mechanics		3	選/E	
	A06784	環境微生物 Environmental Microbiology		3	選/E	
	A06766	結構矩陣法 Matrix Structural Analysis		3	選/E	
	A06468	環境影響評估 Environmental impact Assesment		3	選/E	
	A06371	作業研究 Operation Research		3	選/E	
	A06492	工程經濟學 Engineering Economics		3	選/E	
	A06393	數值分析 Numerical Analysis		3	選/E	
	A06429	職能與倫理 Working Capability and Occupational Ethics		2	選/E	
A06339	工址調查 Site Invespigapion		3	選/E		
A 06610	環境工程特論 Special Topics on environmental		3	選/E		
A06045	生態工程特論 Special Topics on Ecological Engineering		3	選/E		
A06414	永續與環境議題 Sustainable and Environmental Issues		3	選/E		
A06660	智慧運輸系統 Intelligent Transportation System		3	選/E		
<b>本學年度必修學分數 Total Required credits for this year</b>			<b>2</b>			