天主教 輔仁大學 電機工程學系
Dept. of Electrical Engineering, Fu Jen Catholic Unversity
學士班課程規劃表
(適用於 108-112學年度入學生)
Course Planning Sheet (Bachelor's Program)

類別 Categoriesr	模組 Module	科 目 名 稱 Course Title	Credit Hours	1st Year 1st sem.	1st Year 2nd sem.	2nd Year 1st sem.	2nd Year 2nd sem.	3rd Year 1st sem.	3rd Year 2nd sem.	4th Year 1st sem.	4th Year 2nd sem.	備註
Courses Required by the University		導師時間 Time for Class Advisor	0	0	0	0	0	0	0	0	0	
		全民國防教育軍事訓練 All-out Defense Education Military Training	0	0	0							
全人教育課程 Holistic Education (Requied)	核心課程 Fundamental Courses	大學入門 Introduction to University Studies	2	2								
		人生哲學 Philosophy of Life	4			2	2					
		專業倫理-科技倫理 Professional Ethics-Scientific and Technology	2						2			
		體育	0	0	0	0	0					
	基本能力課程 Core Abilities Courses	國文 Chinese	4	2	2							
		外國語文 Foreign Languages (英文至少4學分，但入學考試或經檢定達一定標準者，得免修大一英文，逕選修讀第二外語課程。)	8	2	2	2	2					credits (includes the 4 credits from Freshman) Freshman English Exemption Criteria: Check HEC website
	通識涵養課程 General Education Courses	人文藝術 Humanities and Art	4									Information Technology (NTI8) courses in the Natural Science Field are excluded from the General Education courses of the Department of Electrical Engineering
		自然科技 Natural Science and Technology	4									
		社會科學 Social Sciences	4									
		32										
院／系 必修課程 Required Courses by College / Department	基礎核心 Required Courses by College	微積分(一) Calculus(I)	3	3								
		普通物理(一) General Physics (I)	3	3								
		程式設計(一) Computer programming I	3	3								
	領域核心課程 Field Core Courses	微積分(二) Calculus(II)	3		3							
		普通物理(二) General Physics (II)	3		3							
		工程數學-線性代數 Engineering Mathematics-Linear Algebra	3		3							
		電子學(一) Electronics (I)	3			3						
		電子學(二) Electronics (II)	3				3					
		工程數學-微分方程 Engineering Mathematics-Differential Equations	3			3						
		電磁學(一) Electromagnetism (I)	3					3				
	系專業必修課程 Required Courses by Dept.	計算機概論 Introduction to Computer Science	3	3								
		程式設計(二) Computer Programming II	2		2							
		邏輯設計 Logic Design	3			3						
		邏輯設計實驗 Logic Design Lab.	1				1					
		電路學(一) Circuit Theory(I)	3			3						
		電路學(二) Circuit Theory(II)	3				3					
		電路實驗 Circuit Lab.	1				1					
		工程數學-機率學 Engineering Mathematics-Probability Theory	3				3					
		訊號與系統 Signals & Systems	3				3					
		電子實驗（一） Electronics Labs (I)	1					1				

類別 Categories	模組 Module	科目名稱 Course Title	Credit Hours	1st Year 1st	1st Year 2nd	2nd Year 1st	2nd Year 2nd	3rd Year 1st	3rd Year 2nd	4th Year 1st	4th Year 2nd	備註
		電子實驗（二） Electronics Labs (II)	1						1			
		專題實驗(一) Project Lab.(I)	1						1			
		專題實驗(二) Project Lab.(II)	1							1		
		56										
系核心課程 Core Courses by Dept.	專業模組 (A) Core Courses A	工程數學 - 複變函數 Engineering Mathematics-Complex Variables	3					3				四選二 Choose two from four
		電子學(三) Electronics (III)	3					3				
		微算機概論 Introduction to Microcomputer	3					3				
		電磁學(二) Electromagnetism(II)	3						3			
	專業模組 (B) Core Courses B	通訊系統導論 Introduction to Communication Systems	3					3				八選三 Choose three from eight
		數位訊號處理 Digital Signal Processing	3					3				
		計算機組織 Computer Organization	3						3			
		資料結構 Data Structures	3					3				
		控制工程 Control Engineering	3					3				
		電機機械 Electromechanics	3						3			
		數位系統設計 Digital Systems Design	3					3				
		VLSI電路設計導論 Introduction to VLSI Circuit Design	3						3			
	專業模組 (C) Core Courses C	通訊實驗 Communication Processing	1						1			八選二 Choose two from eight
		數位訊號處理實驗 Digital Signal Processing Experiments	1							1		
		微算機實驗 Microcomputer Lab.	1					1				
		計算機網路實驗 Computer Network Lab.	1						1			
		控制實驗 Control Lab.	1						1			
		數位控制實驗 Digital Control Lab.	1							1		
		數位積體電路設計實習 Digital Integrated Circuit Design Lab.	1							1		
		可程式系統晶片設計實習 SOPC Design Laboratory	1						1			
		17										

類別 Categoriesr	模組 Module	科目名稱 Course Title	Credit Hours	1st Year 1st	1st Year 2nd	2nd Year 1st	2nd Year 2nd	3rd Year 1st	3rd Year 2nd	4th Year 1st	4th Year 2nd	備註
		程式設計實習 Pract. Programming Techniques			1							
		離散數學 Discrete Mathematics			3							
		組合語言 Assembly Language				3						
		工程應用程式工具 MATLAB					3					
		近代物理 Modern Physics						3				
		計算機網路概論 Introduction to Computer Networks						3				
		深度學習 Deep Learning						3				
		無線行動通訊科技概論 Introduction to Mobile Radio Communication					2					
		硬體描述語言 Hardware Description Language					3					
		作業系統 Operating System									3	
		數值分析 Numerical Analysis									3	

類別 Category	課程 Course	1	2	3	4	5	6	7	備註
專業選修 Elective Courses	**系專業選修 Elective Courses by Dept.**								
	作業系統 Operating System							3	
	通訊系統模擬 Communication System Simulations							3	
	數位通訊導論 Introduction to Digital Communication							3	
	數位通訊 Digital Communication						3		
	數位影像處理 Digital Image Processing						3		
	高等計算機結構 Advanced Computer Architecture						3		
	圖型識別 Pattern Recognition						3		
	模糊控制 Fuzzy Control						3		
	VLSI數位訊號處理架構設計 VLSI DSP Architecture						3		
	數位晶片設計概論 Introduction to digital chip design						3		
	奈米光電子學 Nano Optoeletronics						3		
	能源系統暨電力電子轉換器 Power Electronics Converters for Energy						3		
	高等通訊系統設計與模擬 Advanced Communication System Design and Simulations						3		
	數位晶片驗證概論 Introduction of Digital IC Verification						3		
	電力電子學 Power Electronics							3	
	高等計算機網路 Advanced Computer							3	
	機器學習 Machine Learning							3	
	消費性電子資訊產品設計 Design of Consumer Electronics and Informatics Products							3	
	射頻積體電路之系統晶片設計 Radio-Frequency Integrated-Circuit Design							3	
	生醫機電工程導論 Introduction to Bioelectric and Biomechanical							3	
	5G通訊之毫米波光學 Millimeter Wave Quasioptics for							3	
	VLSI系統設計 VLSI System Design							3	
	半導體物理與元件 Semiconductor Physics and Devices							3	
	應用電磁學 Applied Electromagnetics							3	
	矽太陽能電池 Silicon Solar Cell							3	

須修滿本系專業選修課程18學分
You must complete 18 credits of elective courses in this department

類別 Category	課程 Course	1	2	3	4	5	6	7	備註
其他專業選修 Other Professional Courses	基礎微電腦互動設計與實務 Basic Microcomputer Interactive Design and		2						
	電機電子概論 Introduction to Electrical Engineering			2					
	科技講座 Technology Lecture					1			
	產業實習 Internship							2	
	電機工程產業實習 Industry Practice in Electrical Engineering							9	

專業選修須修滿23學分，必須含本系專業選修課程18學分，其他專業課程5學分。
23 credits of professional elective courses must be completed, including 18 credits of professional elective courses in the department and 5 credits of other professional courses.

備註 1.畢業學分數 128 須含全英語專業課程 4 學分 。
The 128 credits for graduation must include 4 credits of all-English major courses.