## 國立金門大學 電機工程學系學士班 課程規劃表

National Quemoy University Department of Electrical Engineeringl Bachelor's Program Program Curriculum Plan

本學系學生畢業時至少應修滿 132學分,包括 修訂歷程 Graduation Requirement: A minimum of 132 credits, including: Revision History REVISION F11StOry

114年3月26日113學年度第2學期第一次系課程規劃委員會訂定通過
Approved on March 26, 2025, during the 1st Departmental-level Curriculum Planning Committee Meeting of the 2nd Semester, Academic Year 2024
114年4月15日113學年度第2學期第一次院課程規劃委員會訂定通過
Approved on April 15, 2025, during the 1st college-level Curriculum Planning Committee Meeting of the 2nd Semester, Academic Year 2024
114年06月04日113學年度第2學期第1次校級課程規畫委員會訂定通過
Approved on June 4, 2025, during the 1st school-level Curriculum Planning Committee Meeting of the 2nd Semester, Academic Year 2024 共同必修 8 學分 通識課程\_16\_學分 General Education Courses: 16 credits General Core Curriculum: 8 credits 院 必 修<u>6</u>學分 系 必 修<u>58</u>學分 College Required Courses: 6 credits Department Required Courses: 62 credits 專業選修<u>44</u>學分(包括<u>12</u>學分可選修非本學系所開設之課程) Professional Electives: 44 credits (including up to 12 credits from other departments)

<del></del>		Professional Electives:	: 44 c	credit	ts (in	cludi	ing up to 12 credits from	课程) other de		partments						_						eademic Y
共同必修 General Required Courses		一年級 First Year 通識	Berr 學分 Cr	學期 nester 時數 Hr	Sem 學分 Cr	時數 Hr		Bem 學分 Cr	學期 ester 時數 Hr	學分 Cr	ester 時數 Hr	三年級 Third Year  "General Education Curriculum	上學 Semo 學分 Cr	ester 時數 Hr	學分 Cr	ester 時數 Hr	四年級 Fourth Year	上學 Semo 學分 Cr	ester	下學 Seme 學分 Cr	ster	四年 To
		General Education 體育 Physical Education	+									Education Curriculum Guidelin				o cre	dits					0
		國文(一) Chinese I 英文(一) English I 國文(二) Chinese II	2	2	2	2																8
		英文(二) English II			2	2												1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
	必修總計 ubtotal	微積分(一)	3	3																		2
專業必修 Profession al Required Courses	院必修 College Required	Calculus I 計算機概論 Introduction to computer	3	3									***************************************									
	Courses 院必修總計 Subtotal	science	6		0			0		0			0		0			0		0		
		普通物理實驗(一) Physics Experiments I	1	3			電子電路實習(一) Microelectronic Circuits	1	3			電子學(三) Microelectronic Circuits III	3	3			專題製作(三) Senior Project III	2	2			
		普通物理學(一) Physics I 數位邏輯	3	3			Experiments I 電子學(一) Microelectronic Circuits I 電路學(一)	3	3			通訊原理 Principles of 信號與系統	3	3					***************************************			
		Digital logic 材料科學與工程導論(一) Introduction to Materials	3	3			Electronic circuits I 工程數學(一)	3	3			Signals and Systems 專題製作(一)	2	2								
		Science and Engineering I 微積分(二) Calculus II			3	3	Engineering Mathematics I 電子電路實習(二) Microelectronic Circuits			1	3	Senior Project I 專題製作(二) Senior Project II			2	2						
		普通物理學(二) Physics II			3	2	Experiments II 電子學(二) Microelectronic Circuits II			3	3	201102 21 30000 22										
		普通物理實驗(二) Physics Experiment II 程式設計 Program Design			3	3	電路學(二) Electronic Circuits II 工程數學(二) Engineering Mathematics II			3	3											
		Program Design					電磁學 Electromagnetics			3	3											
* viv	系必修總計 Subtotal 必修總計		10		10			10		13			11		2			2		0		
	ubtotal	資訊科技認證(一)	16		10			10		13			11		2			2	-	0		
		Information Technology Certification I 資訊科技認證(二)	2	2								科技新聞導讀 Science news reading 科技新聞翻譯	2	2			專題研究(一) Directed Research I 工程倫理	2	2			
	共同選修 General Professional	Information Technology Certification II			2	2						Science news translation 線性代數 Linear Algebra			3	3	Engineering Ethics 校外專業實習(一) Extramural Practicum I	4	4			
	Electives											Linear FrigeUld					Pacticum I 專題研究(二) Directed Research II 企業實務培訓	100		2	2	
																	Enterprises Practical 校外專業實習(二) Extramural Practicum II		Andreas and a second a second and a second and a second and a second and a second a	3 4	4	
		數位邏輯實習 Digital logic internship			3		工程模擬軟體 Engineering Simulation Software	3	3	_	_	數值分析 Numerical Analysis	3	3			數位影像處理 Digital Image Processing 高等通訊系統模擬與實驗	3	3			
	通訊與系統應 用領域 Communicatio n and System Application	數位系統設計 Digital System Design			3	3	物件導向程式設計 Object-Oriented Programming	3	3			嵌入式系統概論 Introduction to Embeded System	3	3			高等理訊系統模擬與貨廠 Advanced Communication System Simulation and Experiment	3	3			
		機率與應用 Probability theory and applications			3	1 3	資料結構 Data Structure	3	3			機器人程式設計 Robot Programming	3	3			高等電力系統 Advanced Power System	3	3			
							計算機結構 Computer Structure			3	3	人工智慧與機器學習 Artificial Intelligence and Machine Learning	3	3			深度學習概論 Introduction to Deep Learning	3	3			
							機器人控制入門 Introduction to Robot Control			3	3	雲端通信整合實務 Integration to Cyber Cloud and Heterogeneous Networks of Practices	3	3			模糊系統 Fuzzy System	3	3			
							自動控制 Automatic Control			3	3	電機機械(一) Electric Machinery I	3	3			自旋電子材料學 Spintronics materials and devices	3	3			
												5G應用服務與電信新技術 趨勢 The Application and Service	3	3			鎖相迴路設計與應用 Design and Application for	3	3			
												of 5G and new technology tendency of telecommunication 數位信號處理概論					Phase Locked Loop					
												Nutroduction to Digital Signal Processing 數位通訊導論			3	3	電力電子學 Power Electronics	3	3			
												Introduction to Digital Communications 通訊實驗			3		科學計算 Scientific computing 智慧淨零碳排與AI應用	3	3			
												Communication Laboratory 傳輸系統電路設計與模擬 Circuit Design and			3	2	Smart net-zero carbon emissions and AI 編碼理論 Coding Theorem	3	3	3	3	
												Simulation for Transmission 物聯網應用系統 System and application of			3		Coding Theorem 電力電子實務 Practice of Power Electronic			3	3	
												internet of things 行動通信概論 Introduction to cellular			3	3	智慧型計算 Intelligent Computation			3	3	
專業選修 rofessional												telecommunication 電機機械(二) Electric Machinery II 電力系統			3	3	深度學習 Deep Learning 太陽能電力系統			3	3	
Electives Courses												e 刀 示統 power system 磁性科技與應用 Magnetic technology and			3	3	Solar Power System 數位信號處理			3	3	
												applications					Digital Signal Processing 行動通訊系統 Mobile Communication			3	3	
																	Systems 工業配電 Industrial Power Distribution			3	3	
		材料科學與工程導論(二) Introduction to Materials			3	3	微處理器系統與實驗 Microprocessor Systems and	3	3			FPGA系統設計實務 FPGA System Design and	3	3			薄膜工程	3	3			
		Science and Engineering II					Experiments 單晶片原理應用 Pinciples and applications of		3			Practice 超大型積體電路設計導論	3	3			Thin Film Engineering 射頻積體電路與模擬 Simulation and Design of	3	3			
	固態與積體電 路領域 Solid state and integrated circuit						single chip microcomputer lab 固態分析技術 Solid-State Analysis			3	3	Introduction to VLSI Design 微波系統導論 RF Microwave Wireless	3	3			Radio Frequency Integrated Circuits 模式化通訊IC設計 Model-based	3	3			
							Techniques  硬體描述語言程式設計與			<i>J</i>		Systems 積體電路模擬實務	3	J			Communication IC Design	3	3			
						1	System Design Using Hardware Description Language			3	3	Integrated Circuits Design Practice	2	2			半導體製程技術 Semiconductor Technology	3	3			
							電腦輔助電路設計 Computer-Aided Design			3	3	高速電路板設計 High-Speed PCB Design 前瞻性類比積體電路佈局			2	2	射頻無線系統與應用 Rf Wireless Systems and Applications	3	3			
												所瞻性類比積體電路佈局 設計 Advanced Analog IC Layout Design and Laboratory	менения на применения на п		3	3	能量轉換原理 Energy Conversion Principle	3	3			
												感測器實務 Practice and Applications of Sensor			3	3	新能源技術 New Energy Technologies	3	3			
													билинини на при				超大型積體電路設計 VLSI Design 表面工程 Surface Engineering		положения в положе	3	3	
																	Surface Engineering 太陽能技術 Technology of solar energy 高頻電路佈局與模擬		опположения в положения в поло	3	3	
																	Layout and Simulation of High Frequency Circuits 類比積體電路設計與模擬		одинати на применения на п	3	3	
																	Analog Integrated Circuits: Design and Simulation 半導體元件及物理	11 11 11 11 11 11 11 11 11 11 11 11 11	политичной	3	3	
													Antonionionionionionionionionionionionionio				Semiconductor Components and Physical 半導體量測技術 Semiconductor Measurement			3	3	
													Waterman				Semiconductor Measurement Technology 通訊網路積體電路設計 Communications Network	111111111111111111111111111111111111111	жилинан на	3	3	
																	Integrated Circuit Design					
	選修總計 ubtotal		2	отности (Оменования положения положения (Оменования положения (Оменования положения (Оменования (Омено	14			15		18			34		40			60		57		2
	胡總計	1					1				_										1	-

- 、畢業總学分132学分,共同必修 24学分[含週識課程16学分(由週識甲心規劃)],專業必修(含院必修及系必修)64学分,專業選修44学分(包含12学分可選修非本系所開設之課程),且須週週「本校学生央文及資訊能力華
- The total number of credits for graduation is 132 credits, General Required Courses: 24 credits [including General Education: 16 credits(planned by general education)], Professional Required: 64 credits (including College Required and Department Required Courses), Professional Electives: at least 40 credits (including up to 12 credits from outside the department), Students graduation requirements follow the university's "Graduation Threshold and Counseling Guidelines for English and 二、已修習通訊原理方可選修數位通訊導論、數位通訊系統、通訊實驗。已修習信號與系統方可選修數位信號處理概論。已修習微積分(一)方可修習微積分(二)。
- Completion of the course on Principles of Communications is a prerequisite for taking Introduction to Digital Communications, Digital Communication Systems, and Communication Laboratory.
- Completion of the Signals and Systems is a prerequisite for taking Introduction to Digital Signal Processing. Calculus I is a prerequisite for Calculus II.
- 三、專題研究(一)得抵修「專題製作(三)」。 "Directed Research I" can be offset by " Senior Project II"

Elective courses listed are tentative and may be adjusted according to actual circumstances.

四、學士班四年級課程與碩士班課程名稱相同時,課程同時適用碩士班。 When the course names in the fourth-year undergraduate curriculum match those in the master's program, the course is applicable to the master's program at the same time. 五、表列選修科目為預定科目,將視實際需要而調整。