

天主教 輔仁大學 電機工程學系
Dept. of Electrical Engineering, Fu Jen Catholic University

碩士班課程規劃表
Course Planning Sheet (Master's Program)

類別 Categories	科目名稱 Course Title	Credit Hours	1st Year		2nd Year		備註
			1st sem.	2nd sem.	1st sem.	2nd sem.	
必修課程 Required Courses	論文 Thesis	6				6	
	專題討論(一) Seminar I	1	1				
	專題討論(二) Seminar II	1		1			
	專題討論(三) Seminar III	1			1		
	專題討論(四) Seminar IV	1				1	
	10						
核心課程 Core Courses	VLSI 領域 VLSI domain	數位晶片設計概論 Introduction to digital chip design	3				1.以學生指導教授所指定之研究領域為其主修領域，必須選修其所屬領域所開設之課程至少十五學分(含)。 2.畢業學分應含主修領域核心課程至少6學分，非主修領域之核心課程至少3學分。 3.各領域核心課程科目以畢業生入學年度之公告為準。若有異動，以所公告之開課表為依據。 1. Students who take the research field designated by their supervisor as their major field must take at least fifteen credits (inclusive) of courses offered in their field. 2. Graduation credits should include at least 6 credits of core courses in the major field and at least 3 credits of core courses in non-major fields. 3. The core course subjects in each field shall be subject to the announcement of the year of admission for graduates. If there is any change, the announced course schedule will be used as the basis.
		數位VLSI設計 Digital VLSI Design	3				
		VLSI數位訊號處理架構設計 VLSI DSP Architecture Design	3				
		半導體物理與元件 Semiconductor Physics and Devices	3				
	系統領域 System domain	數位控制 Digital Control	3				
		數位影像處理 Digital Image Processing	3				
		5G通訊之毫米波光學 Millimeter Wave Quasioptics for Communications	3				
		半導體物理與元件 Semiconductor Physics and Devices	3				
	計算機 領域 Computer domain	高等計算機結構 Advanced Computer Architecture	3				
		數位影像處理 Digital Image Processing	3				
		演算法 Algorithms	3				
		高等計算機網路 Advanced Computer Networks	3				
	通訊領域 Communi- cation domain	高等通訊系統 設計與模擬 Advanced Communication System Design and Simulations	3				
		高等傳輸模擬技術 Advanced Transmission and Simulation Techniques	3				
		數位通訊 Digital Communication	3				
		無線通訊系統概論 Introduction to Wireless Communication Systems	3				

類別 Categoriesr	科目名稱 Course Title	Credit Hours	1st Year		2nd Year		備註
			1st sem.	2nd sem.	1st sem.	2nd sem.	
選修課程 Elective courses	VLSI數位訊號處理架構設計 VLSI DSP Architecture Design	3					
	數位晶片設計概論 Introduction to digital chip design	3					
	類比積體電路設計 Analog Integrated Circuits Design	3					
	資料轉換器設計 Data Converter Design	3					
	射頻積體電路之系統晶片設計 Radio-Frequency Integrated-Circuit Design for SOC	3					
	奈米光電子學 Nano Optoelectronics	3					
	能源系統暨電力電子轉換器 Power Electronics Converters for Energy System	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					
	半導體製程技術與設備 Semiconductor Manufacturing Technology and Equipment	3					
	電力電子學 Power Electronics	3					
	模糊控制 Fuzzy Control	3					
	高等計算機網路 Advanced Computer Networks	3					
	機器學習 Machine Learning	3					
	視覺模型與分析 Vision Modeling and Analysis	3					
	圖型識別 Pattern Recognition	3					
	高等人工智慧 Advanced Artificial Intelligence	3					
	高等機器學習 Advanced Machine Learning	3					
	電腦視覺 Computer Vision	3					
	智慧圖型辨識理論及應用 Intelligent Pattern Recognition, Theory and Applications	3					
	影像分析 Image Analysis	3					
	量子電腦概論 Introduction to quantum computer	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 for SOC	3					
	生醫機電工程導論 Introduction to Bioelectric and Biomechanical Engineering	3					
	5G通訊之毫米波光學 Millimeter Wave Quasioptics for Communications	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					
	必須修滿本所認可之選修課程二十四學分。 Must complete 24 credits of elective courses approved by the institute.						