

國立虎尾科技大學114學年度電機工程系碩士班課程規劃表

Curriculum of the master program of the department of electrical engineering, National Formosa University (Academic year 2025)

	碩士班一年級/1st academic year			碩士班二年級/2nd academic year		
	科目/course	上/1st semester	下/2nd semester	科目/course	上/1st semester	下/2nd semester
		學分數/時數 credits/hours	學分數/時數 credits/hours		學分數/時數 credits/hours	學分數/時數 credits/hours
必修 /Required Courses	專題研究(一)/Research Project(1)	0/2		碩士論文(一)/Thesis(1)	3/0	
	書報討論(一)/Seminar(1)	0/2		碩士論文(二)/Thesis(2)		3/0
	專題研究(二)/Research Project(2)		0/2			
	書報討論(二)/Seminar(2)		0/2			
選修/ Elective Courses	能源轉換/Energy Conversion	3/3		電力系統穩定度分析/Power System Stability Analysis	3/3	
	高等電機機械/Advanced Electrical Machinery	3/3		強健控制/Robust Control	3/3	
	電力系統運轉與控制/Power System Operation and Control	3/3		視訊通訊/Video Communication	3/3	
	切換式電源供應器/Switching Mode Power Supply	3/3		正交分頻多工/Orthogonal Frequency Division Multiplexing	3/3	
	電力品質/Power Quality	3/3		電磁應用/Electromagnetic Application	3/3	
	高等電力電子/Advanced Power Electronics	3/3		5G行動通訊技術應用/5G mobile communication technology application	3/3	
	數位訊號處理/Digital Signal Processing	3/3		混合訊號積體電路佈局設計/Mixed Signal IC Layout and Design		3/3
	線性系統理論/Linear System Theory	3/3		校外實習/Practicum Training		3/3
	模糊系統/Fuzzy Systems	3/3		5G 物聯網與通訊技術/5G IoT and Communications Technologies		3/3
	FPGA電路設計/FPGA Circuits Design	3/3				
	高等數位通訊/Advanced Digital Communications	3/3				
	嵌入式系統/Embedded Systems	3/3				
	超大型積體電路設計/Very Large Scale Integrated Circuits Design	3/3				
	無線網路協定技術實務與應用/Wireless Network Technologies Principles Protocols and Applications	3/3				
	機器學習/Machine Learning	3/3				
	物聯網平台應用開發/ Internet of Things Application Development Platform	3/3				
	智慧生活科技系統設計/Intelligent Living Technology System Design	3/3				
	高階微控制器系統設計實務/ Advanced Microcontroller System Design and Applications	3/3				
	電源管理電路設計/Power Management Circuit Design	3/3				
	類比積體電路設計/Analog Integrated Circuit Design	3/3				
	電子產業實務與應用/Applications and practices for electrical industries	3/3				
	科技論文寫作/Technical Paper Writing		2/2			
	交直流馬達驅動/AC/DC Motor Driver		3/3			
	電力轉換器設計實務/Power Converter Design Practice		3/3			
	電子電路設計實務/Power Electronics Design Practice		3/3			
	適應性濾波器/Adaptive Filtering		3/3			
	線性控制器設計/Linear Controller Design		3/3			
	電腦視覺/Computer Vision		3/3			
	非線性系統/Nonlinear System		3/3			
	智慧型控制/Intelligent Control		3/3			
	通信與網路/Communications and Networks		3/3			
	電力電子磁性元件與應用/ Magnetic Device and Application of Power Electronics		3/3			
	高等FPGA系統設計與實務/ Advanced FPGA System Design and Practice		3/3			
	行動通訊/Mobile Communications		3/3			
	網路效能分析與模擬/ Network Performance Analysis and Simulations		3/3			
	無線感測網路/Wireless Sensor Networks		3/3			
	適應性訊號處理/Adaptive Signal Processing		3/3			
	5G核心網路技術與實務/Technology and Practice of 5G Core Networks		3/3			
	系統應用設計與實務/Application System Design and Practice		3/3			
	多核心晶片設計實作/Multicore Chip Design Laboratory		3/3			
	照明驅動電路/Lighting Drivers		3/3			
	物聯網核心技術與應用/Key Technologies and Applications of IoT		3/3			
	4G/5G行動寬頻協同網路/4G/5G Mobile Broadband Collaborative Network		3/3			
	高等電路理論/Advanced Circuit Theorem		3/3			
	智慧機器人應用/Applications in Intelligent Robotics		3/3			
	電源管理晶片設計實作/Power management chip design and implementation		3/3			

1.本系碩士班研究生最低畢業總學分數為30學分，其中必修包含論文6學分、二學期之書報討論及專題研究，選修至少修滿24學分，並須通過碩士學位考試。  
M.S. students in the program must complete at least 30 credits of coursework, including 24 credits elective course, 6 credits of thesis, seminar coursework through 2 semesters and the master degree examination must be passed.

2.畢業學分必須包含2學分之「科技論文寫作」；外系選修課至多承認6學分。  
The 2 credits technical paper writing coursework is required and students may elect other academic department courses to satisfy up to 6 hours of elective credit.

3.外國學生必修「華語教學(一)」及「華語教學(二)」，相關規定詳「外國學生修讀華語課程實施要點」。International Students of NFU are required to take "Mandarin (1)" and "Mandarin (2)" courses, for more details please refer to "Mandarin Course Requirements for NFU International Students"

4.外國學生可修讀「華語教學」課程得免修「專題研究」課程。外國學生開放選修外系(電資、工程學院)全英文授課課程，惟須經指導教授同意，不受上述6學分限制。  
International Students having passed any one course of "Mandarin (1) to (4)" can be applied for waiving the course of “Research Project”. Besides the Department of Electronic Engineering, international students can also take the English speaking courses from the Departments of the College of Electrical and Computer Engineering and the College of Engineering. Otherwise, unless with the approval of their advisers, the courses they take will be subjected to the 6 elective course credits limits mentioned above.