國立高雄科技大學

智慧機電學院、電機與資訊學院、工學院與 University of Cincinnati, College of Engineering & Applied Science

簽訂雙聯學制計畫書

本校執行單位	智慧機電學院／工學院 電機與資訊學院	
單位主管核章	教授兼智慧機電學院院長 方得華(甲) 教授兼工學院院長 黃忠發(甲) 教授兼電機與資訊學院院長 李財福	國立高雄科技大學 智慧機電學院 國立高雄科技大學 工學院 國立高雄科技大學 電機與資訊學院

中　　華　　民　　國　　114　　年　　9　　月

一、依據及緣起

依據國立高雄科技大學與境外大學校院辦理雙聯學制實施要點辦理。在這份協議中記錄了辛辛那提大學與國立高雄科技大學之間的雙聯學制的實施要點。本雙聯學制的計畫書的主要目標是成立對智慧機電工程學院(CIMEE)、電資工程學院(CEECS)和工程學院(CE)和工程與應用科技學院(CEAS)均有益的課程。雙學位碩士課程將為高雄科技大學的學生提供機會，讓他們既能獲得本校 CIMEE、CEECS、CE 的碩士學位，又能獲得辛辛那提大學 CEAS 的工程碩士學位。

二、合作機構簡介

辛辛那提大學是一所位於俄亥俄州辛辛那提市克利夫頓大道 2600 號（郵編 45221）的州立高等教育機構，根據《俄亥俄州修訂法典》第 3361 章組織成立，國立高雄科技大學是一所位於高雄市。雙方旨在提供一項雙聯學制銜接協議，允許辛辛那提大學與本校之間進行學分轉換，從而有助於授予智慧機電工程學院、電資工程學院和工程學院的碩士（MS）學位和工程與應用科技學院(CEAS)的工程碩士（MEng）學位。

三、合作交流內容

（一） 學生選薦方式

1. 申請資格及名額規定

學生可以透過多種方式證明其研究生階段的英語程度。大多數學生透過參加托福 (TOEFL)、雅思 (IELTS) 或培生英語考試 (PTE) 來滿足英語要求。CEAS 制定了以下最低要求：雅思總分 6.5 分即可；培生英語考試 59 分即可；托福（網考）85 分即可。在兩所大學學習期間，學生須遵守各自院校的所有規章制度和要求，並須遵守這些規章制度的任何授權變更，例如費用調整等。儘管有此規定，工程與應用科技學院（CEAS）和智慧機電工程

學院（CIMEE）、電資工程學院（CEECS）和工程學院（CE）均承認，自學生被合作院校錄取之日起，他們將持續致力於為聯合計畫的學生提供服務。

2. 甄審之規定

學生將申請 CIMEE、CEECS 和 CE 理學碩士課程以及 CEAS 工程碩士課程。在本校碩士班就讀第一年期間，CIMEE、CEECS 和 CE 的管理人員將篩選有意參加雙學位課程的學生。那些表現出適當學術潛力（主要指相關課程成績優異、英語能力高以及對美國教育體係感興趣）的學生將被推薦繼續參加雙學位計畫。

這些學生無需提交 GRE 成績即可申請 CEAS 工程碩士課程。本校 CIMEE、CEECS 和 CE 的負責人員將發送符合條件的學生成績單給 CEAS 負責人員審核，以確認學生是否符合辛辛那提大學 (UC) 的申請資格。

3. 獎助條件

在 UC 註冊為全職學生期間，雙學位碩士課程的學生將有資格獲得與傳統工程碩士學生相同的獎學金。

（二） 費用之繳交

1. 除非雙方另有規定並以書面約定，否則各方應各自承擔在各自國家/地區提供本計畫學術部分的相關財務費用。
2. 雙學位碩士課程的學生在就讀 CIMEE、CEECS 和 NKUST 並註冊課程期間，需支付 CIMEE、CEECS 和 NKUST CE 的學雜費；在就讀 UC 並註冊課程期間，需支付 UC CEAS 州外學雜費。
3. 雙方保留更改項目任何部分學雜費的權利。已完成本計畫的學生的學費可能會根據其各自大學所有其他學生的學費變化而變化。
4. 在辛辛那提大學就讀期間，CIMEE、CEECS 和 CE 學生需自行承擔學費、雜費、住宿費、餐費、旅行費、健康和意外保險費、書籍和學習用品費以及其他雜費。

5. 所有在辛辛那提大學就讀的學生必須購買辛辛那提大學健康保險。此保險費用將計入學生帳單。

6. 對於申請校內住宿的學生，辛辛那提大學住宿和餐飲服務辦公室請學生在申請住宿和餐飲計劃時支付押金。住宿和餐飲申請及押金支付應在抵達辛辛那提大學之前儘早完成。住宿和餐飲計劃的費用取決於每位學生選擇的方案。押金可以透過信用卡或支票支付。辛辛那提大學住宿和餐飲服務辦公室將在學期開始前向每位學生提交發票。開學時需全額付款。住宿和餐飲費用需直接支付給辛辛那提大學。校內住宿無法保證。儘早申請至關重要。

（三） 修讀課程(研究所僅撰寫論文者免)

檢附課程對照表 －經○○年○○月○○日○○學年度第○○次系（所）課程委員會議審議通過

辛辛那提大學(University of Cincinnati)課程		
English	中文	學分數
Capstone Project/Internship	畢業設計專案/實習	3
Metals/Ceramics Option		
Advanced Thermodynamics	高等熱力學	3
Mechanical Behavior of Materials	材料機械性質	3
Kinetics of Materials Processing	材料製程動力學	3
Phase Transformations in Solids	固體相變化	3
Polymers Option		
Advanced Thermodynamics	高等熱力學	3
Fundamentals of Polymer Science	高分子科學	3
Physics of Polymer Properties	高分子物理性質	3
Polymer Analysis and Characterization	高分子分析與檢測	3

【智慧機電學院 機械工程系】碩士課程結構規劃表
Curricula for the Master's Program in Mechanical Engineering Department, CIMEE

組別/必選修	科目名稱/學分
必修	專題研討 Seminar(一)/2
	專題研討 Seminar(二)/2
	研究方法 Research Methodology/1
	論文 Master Thesis/6
設計與製造組/設計固力領域 Design and solid mechanics group	電腦繪圖學 Computer Graphics/3/3、有限元素法 Finite Element Method /3/3、電腦輔助工程分析 Computer Aided Engineering Analysis/3/3、機器人機構之分析與設計 Design and Analysis of Robot Mechanisms/3/3、波動力學 Shock Wave Dynamics /3/3、產品創新與研發管理特論 Management of Product Innovation /3/3、工具機靜壓軸承設計 Hydrostatic Bearing Design for Machine Tools/3/3、靜壓潤滑 Hydrostatic Lubrication/3/3、機構原理與設計 Theory and Design of Mechanisms/3/3、高等機構設計 Special Project On Advanced Mechanism Design/3/3、高等動力學 Advanced Dynamics/3/3、齒輪原理與設計 Theory and Design of Gearing /3/3、可靠度工程 Reliability Engineering /3/3、田口式品質設計方法 Taguchi Quality Design Method /3/3、計算動力學 Computational Dynamics /3/3、電腦輔助幾何設計 Computer-Aided Geometric Design /3/3、應用塑性力學 Applied Plasticity /3/3、連體力學 Continuum Mechanics /3/3、彈性力學 Elasticity /3/3、科技論文英語寫作 Technical Writing and Communication in English /3/3、最佳化設計 Optimum Design /3/3、振動力學 Mechanics of Vibration /3/3、模態分析 Modal Analysis/3/3
設計與製造組/精密製造領域 Precision manufacturing group	製造系統工程 Manufacturing System Engineering /3/3、工程系統理論 Theory of Engineering System /3/3、遠距網路製造 Remote Networked Manufacture /3/3、影像處理與機械視覺 Image Processing and Machine Vision /3/3、專利策略與實務 Patent Strategy and Practice/3/3、資料分類演算法 Algorithms for Clustering Data /3/3、虛擬實境技術應用特論 Special Topics On Virtual Reality Technology Application /3/3、工具機之人機介面設計與應用 Graphics User Interface Design and Application of Machine /3/3、案例式推論方法 Case-Based Reasoning /3/3、電腦整合製造 Computer Integrated Manufacturing /3/3、製造系統與策略 Manufacturing System and Strategy /3/3、奈米結構設計與分析 Design and Analysis for

	Nano-structure /3/3、虛擬製造 Virtual Reality and Virtual Manufacturing /3/3、專利爭議案例之比較研究 Comparative Study of Patent Dispute Cases /3/3、專利迴避設計特論 Special Topics On the Patent Design-Around /3/3、產品設計與製造 Product Design and Manufacture /3/3、技術發展與知識管理 Technology Development and Knowledge Management /3/3、模態分析 Modal Analysis/3/3
機光電與控制組/領域 Opto-Mechatromics and Control group	光電工程 Optoelectronic Engineering /3/3、線性系統 Linear System /3/3、最佳控制 Optimal Control /3/3、機電學 Principle of Mechatronics /3/3、幾何光學 Geometric optics/3/3、微系統特論 Special Topics On Microsystems /3/3、微感測器特論/3/3、精微機械加工特論 Special Topics On Microsensors /3/3、光學成像系統 Optical Imaging Systems //3/3、光電檢測 Opto-electronic measurement /3/3、強健控制 Robust Control /3/3、非線性控制 Nonlinear Control /3/3、電磁學 Electomagnetics /3/3、機電系統動力學 Dynamics of Mechatronic System /3/3、類神經網路 Neural Network /3/3、振動控制 Vibration Control /3/3、數位訊號處理 Digital Signal Processin /3/3、數位控制 Digital Control /3/3、進階電子學 Advanced Electronics /3/3、模糊系統與控制 Fuzzy System and Control /3/3、進階幾何光學 Advanced Geometrical Optics /3/3、光學照明系統 Optical Illumination Systems/3/3、半導體物理與元件 Semiconductor Physics and Devices/3/3、微感測器 Microsensor/3/3、適應控制 Adaptive Control /3/3、雷射加工專題 Special Topics On Laser Machining /3/3、壓電致動器原理與應用 Principle and Application of Piezoelectric Actuator /3/3、伺服晶片設計 Servo Chip Design /3/3、變結構控制 Variable Structure Control /3/3
材料與能源組/能源工程領域 Energy Engineering group	工程分析 Engineering Analysis /3/3、熱傳導學 Conductive Heat Transfer /3/3、計算流體力學 Computational Fluid Dynamics /3/3、量子力學 Quantum Mechanics /3/3、高分子加工 Polymer Processing /3/3、多相傳輸系統 Multiphase Flow /3/3、壓力容器安全工程 Safety Engineering of Pressure Vessel /3/3、紊流學 Turbulent Flow /3/3、黏性流體力學 Viscous Fluid Mechanics /3/3、微擾理論 Micro Turbulent Theory /3/3、可再生能源 Renewable Energy /3/3、多重物理分析 Multiphysics /3/3、平面顯示器原理與製程 Flat Panel Display Technology and Manufacturing /3/3、冷凍空調原理 Principles of Refrigeration and Air-conditioning /3/3、太陽能工程 Solar Engineering /3/3、對流熱傳學 Convective Heat Transfer /3/3、輻射熱傳學 Radial Heat Transfer /3/3、微觀熱傳 Micro Heat Transfer /3/3、熱傳增強原理 Heat Transfer Enhancement /3/3、
材料與能源組/ 材料與奈米工程領域 Material and Nanotechnology	半導體製程與設備 Manufacturing Processes and Equipments of Semiconductor /3/3、高等物理冶金 Advanced Physical Metallurgy/3/3、奈米材料 Nano-materials /3/3、微系統工程 Microsystem Engineering /3/3、儀器分析 Instrumental Analysis /3/3、擴散理論 Diffusion Theory /3/3、電子顯微鏡（一）SEM (1) /3/3、電子顯微分析 Analysis of SEM /3/3、陶瓷材料

group	Ceramic Materials/3/3、微機電製程 Machining Process of MEMS /3/3、微奈米製造與檢測技術 Micro & Nano Fabrication and Measurement Technology /3/3、潤滑理論 Lubrication Theory /3/3、微觀力學 Micro Mechanics /3/3、微細加工技術 Micro Machining Technology /3/3、電子陶瓷 Electronic Ceramics /3/3、微機電材料 Material of MEMS /3/3、固態熱力學 Thermodynamics of Solid State /3/3、電子顯微鏡（二）SEM (2)/3/3、奈米工程 Nanotechnology /3/3、半導體元件與材料 SemiconductorPhysics & materials /3/3、成形設備設計原理 Design Principles of Molding Machinery /3/3、微機電系統設計 MEMS(Micro-Electro-Mechanical-System) Design /3/3、材料破壞理論 Theory of Material Fracture /3/3、光電材料 Materials for Photo-electric Applications /3/3、X-光繞射分析 X-Ray Diffraction Analysis /3/3、X-光結晶學 *X*-ray crystallography /3/3
國際組學程/領域 International group Program / Specialty	電腦輔助設計 Computer Aided Design /3/3、高分子材料加工 Polymer Material and Processing /3/3、最佳化設計 Optimum Design /3/3、製造系統工程 Manufacturing System Engineering /3/3、產品設計與製造 Product Design and Manufacture /3/3、電腦整合製造 Computer Integrated Manufacturing /3/3、機電學 Principle of Mechatronics /3/3、逆向工程 Reverse Engineering /3/3、模具設計 Die & Mold Design /3/3、知識管理 Topics on Knowledge /3/3、作業管理 Operation Management /3/3、機器學習 Machine learning /3/3、生產系統設計 Design of Production Systems /3/3、微細加工技術 Micro Machining Technology /3/3、材料特論 Specific Theory of Material/3/3、機構原理與設計 Theory and Design of Mechanisms /3/3、微機電製程 Machining Process of MEMS /3/3、精密金屬成型 Precision Metal Forming /3/3、有限元素法 Introduction to the Finite Element Method /3/3、靜壓潤滑 Hydrostatic Lubrication /3/3、研究方法 Research Methodology /3/3、機電整合 Mechatronics /3/3、科技管理 Management of Technology /3/3、系統性創新方法 Systemic Innovation /3/3、品質管理 Quality Contro /3/3、控制系統設計與模擬 Control System Design and Simulation /3/3、人工智慧 Artificial Intelligence Theory /3/3、/潤滑理論 Lubrication Theory 3/3、精密工具機設計原理 Design Principles of Precision Machine Tools /3/3、電子設計 Electronic Design /3/3、電路設計 Electrical Circuit Design /3/3、光電元件 Electronic Devices /3/3、配電自動化 Distribution Automation /3/3、機器人學 Introduction to Robotics /3/3、影像處理 Image processing /3/3、精密製造 Precision Manufacturing /3/3、光電工程 Photo-Electric Engineering /3/3、微機電系統工程 Micro-Electro-Mechanical Systems /3/3、模態分析 Modal Analysis /3/3

【智慧機電學院 模具工程系】碩士課程結構規劃表

Curricula for the Master's Program in Mold and Die Engineering Department, CIMEE

組別/必選修	科目名稱/學分
必修	Seminar (1)/2
	Seminar (2)/2
	論文 Master Thesis/6
選修	逆運算 3/3 Inverse Problems 3/3 物理冶金 3/3 Physical Metallurgy 3/3 高速切削與 CAM 應用 High Speed Cutting with CAM Application 3/3 高分子加工原理 3/3 Principle of Polymer Processing 3/3 奈米工程 3/3 Nanotechnology 3/3 高等數值分析 3/3 Advanced Numerical Analysis 3/3 彈性力學 3/3 Elasticity 3/3 科技英文寫作 3/3 Technical English Writing 3/3 工程分析 3/3 Engineering Analysis 3/3 高分子材料 3/3 Polymer Materials 3/3 機械元件設計分析 3/3 Design and Analysis of Machine Element3/3 機構原理與設計 3/3 Theory and Design of Mechanisms 3/3 塑性力學 3/3 Mechanics of Plasticity 3/3 最佳化設計 3/3 Optimum Design 3/3 熱傳導 3/3 Conductive Heat Transfer 3/3 專利工程實務 3/3 The Practice of Patent Engineering 3/3 實驗力學分析 3/3 Experimental Mechanics 3/3 非傳統加工 3/3 Non-traditional Machining Processes 3/3 電腦整合製造 3/3 Computer Integrated Manufacturing 3/3 精密模具技術與應用 3/3 Technology of Precision Mold and Die and Its 3/3 醫學工程特論 3/3 Special Topics On Biomedical Engineering 機械振動學 3/3 Mechanical Vibration 燃料電池特論 3/3 Special Topics On Fuel Cells 複合材料 3/3 Composite Materials 有限元素法 3/3 Finite Element Method 3/3

	對流熱傳 3/3 Convective Heat Transfer 3/3 塑膠模具設計與分析 3/3 Plastic Mold Design and Analysis 3/3 相變化 3/3 Phase Transformations in Metals and Alloys 3/3 塑性成形理論與應用 3/3 Theories and Applications of Plastic Forming 3/3 精密金屬成形 3/3 Precision Metal Forming 3/3 振動分析 3/3 Vibration Aualysis 3/3 最佳化分析 3/3 Optimal Analysis 3/3 金屬模具設計與分析 3/3 Design & Analysis of Metal Die Mold 3/3 精密鑄造特論 3/3 Special Topic in Precision Casting 3/3 能源材料 3/3 Energy Materials 3/3 高等機構運動學 3/3 Advanced Kinematics of Mechanisms 3/3 高等機構原理與設計 3/3 Advanced Mechanism Theory and Design 3/3 快速模具特論 3/3 Special Topics in the Rapid Tooling 3/3 計算熱傳遞 3/3 Numerical Heat Transfer 3/3 計算運動學 3/3 Computational Kinematics 3/3 薄膜工程 3/3 Thin-Film Engineering 機器人運動學 3/3 Robot Kinematics 3/3 研發管理 3/3 Reasearch Management 生物力學 3/3 Bio-mechanics 中國傳統醫學與經絡生物能量研究 3/3 Research of Chinese Traditional Medicine and Meridian Bio-energy 模具疲勞與破壞 3/3 Fatgue and Fracture 田口式品質工程 3/3 Taguchi Method for Quality Design 3/3 準分子雷射與微細加工 3/3 Excimer laser and micromachining 破壞力學 3/3 Fracture Mechanics 分子動力學 3/3 Molecular Dynamics 快速成形 3/3 Rapid Forming 成形不良案例分析 3/3 Analysis of Irregular Products 微機電製程 3/3 Machining Process of MEMS 模具熱傳 3/3 Mold Heat Transfer 模具機械系統設計 3/3 Machinery System Design of Mold 實驗應力分析 3/3 Experimental Stress Analysis 3/3 材料特論 3/3 Specific Theory of Material 雷射加工 3/3 Laser Machining 高分子雷射與微細加工 3/3 Polymer Laser and Micro-processing

	公差分析與設計 3/3 Tolerance Analysis and Design 半導體製程設備概論 3/3 Process Equipments of Semiconductors 光感測技術 3/3 Optical Sensor Technology 奈米工程技術概論 3/3 Introduction To Nano-Technology 進階科技英文寫作 3/3 Advanced Technology English Writing 機器人學 3/3 Robotics 生物能量特論 3/3 Special Topic of Bio-energy

【智慧機電學院 機電工程系】碩士課程結構規劃表
Curricula for the Master's Program in Department of Mechatronics Engineering, CIMEE

組別/必選修	科目名稱/學分
Common Courses	Seminars (I) →1 credit / 2 hours
	Seminars (II) →1 credit / 2 hours
	Technical Report Writing→1 credit / 2 hours
	Practice of English Oral Presentation →1 credit / 2 hours
	Thesis → 6 credits
General Courses	* Theory and Practive of Artificial Intelligence → 3 credits / 3 hours * Numerical Analysis → 3 credits / 3 hours * Finite Element Method → 3 credits / 3 hours * Statistical Process Control → 3 credits / 3 hours * Special Topic for Practice in Summer → 3 credits @ Experimental Design and Quality Engineering → 3 credits / 3 hours @ Numerical Analysis And Application → 3 credits / 3 hours
Design and Manufacturing Related Courses	* Stamping Dies Design → 3 credits / 3 hours * Laser Materials Processing → 3 credits / 3 hours * Vibration Measurement and Practice → 3 credits / 4 hours * Intelligent Condition Monitoring System → 3 credits / 3 hours * Special topics for Advanced Manufacturing Technology → 3 credits / 3 hours * NC Programming for Multi-Axis Machine → 3 credits / 3 hours * Special Topics to Nano and Micro Manufacturing Technology → 3 credits / 3 hours * Introduction to Metal Industry Technology → 3 credits / 3 hours * Engineering Economics → 3 credits / 3 hours * Practice on Metal Forming Die Design → 3 credits / 4 hours * Plastics Engineering → 3 credits / 3 hours * Stamping Dies Analysis → 3 credits / 3 hours * Practice of Intelligent Injection Molding Molds and Machines → 3 credits / 3 hours * Mold and die Materials and Heat treatment → 3 credits / 3 hours

	* Vehicle Dynamic Analysis → 3 credits / 3 hours * Product Innovation and Concurrent Design → 3 credits / 3 hours * Design and Applications of LED Lighting → 3 credits / 3 hours * Introduction to Semiconductor Manufacturing Technology → 3 credits / 3 hours * Robotics → 3 credits / 3 hours * Introduction to Micro Electromechanical System → 3 credits / 3 hours @ Intelligent Condition Monitoring System → 3 credits / 3 hours @ Precision Cutting → 3 credits / 3 hours @ Theory and Application of Neural Networks → 3 credits / 3 hours @ Vehicle dynamics system → 3 credits / 3 hours
Automation Related Courses	* Advanced PLC → 3 credits / 3 hours * Intelligent Automation → 3 credits / 3 hours * Servo Control Practice → 3 credits / 3 hours * Electric Machinery and Servo Control System Design → 3 credits / 3 hours * Introduction to Motion Control System → 3 credits / 3 hours * Computer Vision → 3 credits / 3 hours * Digital Control System → 3 credits / 3 hours * Practice and Electronic Circuit Design for Digital Control System → 3 credits / 3 hours @ Digital Signal Processing and Electric Machine Control → 3 credits / 3 hours @ Nonlinear System Dynamics and Control → 3 credits / 3 hours @ Sensor Principle and Practice → 3 credits / 3 hours @ Observer Design in Control System → 3 credits / 3 hours @ Advanced Motion Control → 3 credits / 3 hours

【工學院 土木工程系】碩士課程結構規劃表

National Kaohsiung University of Sciences
Master of Science, Department of Civil Engineering in Academic Year 2024

Year	1st academic year		2nd academic year	
Semester	Semester 1	Semester 2	Semester 1	Semester 2
Required courses (14/14)	Seminar(1) 2/2	Seminar(2) 2/2	Seminar(3) 2/2	Seminar(4) 2/2 Thesis 6/6
Elective courses (24/24)	@Structural Dynamics 3/3 @Pavement Design 3/3 @Numerical Analysis 3/3 @Detail Design of Steel Structure 3/3 Advanced Engineering Analysis 3/3 Advanced Mechanics of Material 3/3 @Elasticity 3/3 Repair and Retrofit of Structure 3/3 Reinforced Concrete Behavior 3/3 Structure Structural Design 3/3 Principles and Applications of Piezoelectric Materials 3/3 @Earthquake Engineering 3/3 @Bridge Engineering 3/3 @Smart Sensing Technologies 3/3 @Road Asset Management 3/3 @Soil Dynamics 3/3 Geotechnical Material Behavior of Materials 3/3 @Computer Application On Geotechnology Engineering 3/3 @Disaster Prevention Assessment Engineering 3/3 @Rock Mechanics 3/3 Mechanical Behavior of Materials 3/3 @Non-destructive Evaluation 3/3 @Advanced Concrete Technology 3/3 Analysis of Microscopic Structures 3/3 @Intelligent Robot Design and Implementation 3/3 @Surveying Adjustment 3/3 @ Satellite Positioning 3/3 @Digital Photogrammetry 3/3 Strategy Management in Construction Industry 3/3 Construction Productivity and Performance Management 3/3	@Introduction to Seismic Evaluation and Design of Building Structures 3/3 @Structural Matrix Analysis 3/3 Failure Mechanics 3/3 Mechanics of Composite Materials 3/3 @Modal Analysis 3/3 Advanced Structnral Steel Design 3/3 @Finite Element Method 3/3 Assesment and Disaster Prevention On Earthquake Damage 3/3 Continuum Mechanics 3/3 @Mechanics of Piezoelectric Materials 3/3 @Asphalt Concrete Mixture Design and Construction 3/3 @Research Method and ThesisWriting 3/3 @Advanced Foundation Engineering 3/3 @Dam's Engineering and It Disaster Prevention 3/3 Advanced Ecological Engineering 3/3 @Advanced Disaster Techniques in Geotechnical Engineering 3/3 @ Fire Safety Engineering 3/3 @Techniques of Structure Corrosion Prevention 3/3 @Waste Treatment and Recovery Technology 3/3 Materials of Construction Topics 3/3 Special Topics On Concrete Technology 3/3 @Value Analysis Monograph 3/3 @Engineering Software Development and Applications 3/3 @Monitoring and Forecast for Engineering 3/3 @Neural Network Design3/3 @Spatial Information System 3/3 Application of spatial information technology in disaster prevention 3/3 @Satellite Geodesy 3/3		

	Project Management Information System 3/3 @Remote Sensing of Environment 3/3 @Building Information Model Technology and Applications 3/3 @Construction Project Management 3/3 Engineering Economy and Finance Management 3/3 @Knowledge Management 3/3 @Transportation Network Analysis 3/3 @ Analysis of Offshore Wing Turbine 3/3 @ Operational Research with Interoperable Data3/3	@Computer Graphics and Virtural Reality 3/3 @Computer Vision and Image Recongnition 3/3 Contract Management and Dispute Resolution 3/3 @Advance Information Tools for Project Management 3/3 @Application of optimization in civil engineering 3/3 @ Big Data & Data-driven Decision-making 3/3 @Intelligent Transportation Systems 3/3		

【工學院 化學工程與材料工程系】碩士課程結構規劃表

化材系 碩士班 113學年度入學課程結構規劃表
National Kaohsiung University of Science and Technology
Department of Chemical and Materials Engineering, College of Engineering
Curriculum of Master Program in Academic Year 2024

課程類別			一年級1st academic year (Y1)						二年級2nd academic year (Y2)					
			第一學期Semester 1			第二學期Semester 2			第一學期Semester 1			第二學期Semester 2		
			課程名稱 courses	學分 credit	時數 hour	課程名稱 courses	學分 credit	時數 hour	課程名稱 courses	學分 credit	時數 hour	課程名稱 courses	學分 credit	時數 hour
必修 Required courses		應修學分數 11學分 11 credits of requirement	專題研討(一) Seminar (1)	1	2	專題研討(二) Seminar (2)	1	2				論文 Master Thesis	6	
						科技英文 Technical English writing	3	3						
	特用化學品領域 Specialty Chemicals		特用化學品特論 Specialty Chemicals	3	3	界面化學特論 Selected Topics of Surface Chemistry	3	3	特用合成樹脂 Special Synthetic Resin	3	3	光電特用化學品技術 Optical Technology Specialty Chemicals	3	3
			高等有機化學 Advanced Organic Chemistry	3	3	有機分析 Analysis of Organic Chemistry	3	3	界面活性劑製程 Manufacturing Process of Surfactant	3	3	生醫特用化學品 Bio Specialty Chemicals	3	3
			有機合成 Synthesis of Organic Chemistry	3	3	特用化學品製造程序 Specialty Chemicals Manufacturing Process	3	3				凝膠技術與應用 Colloid Technology and Applications	3	3
			溶凝膠及粉體技術 Sol-Gel Science and Powder Technology	3	3	化妝品化學實務 Cosmetics Practice	3	3						
			工業化學特論 Selected Topics in Industrial Chemistry	3	3	界面科技與應用 Interfacial Technology1 and Application	3	3						
			膠體與界面科學 Colloid and Surface Science	3	3									
	材料科技領域 Materials Technology		高分子材料 Polymer Materials	3	3	高分子分析技術 Polymer Characterization	3	3	高分子型態學 Polymer Morphology	3	3	超導體材料 Superconductor Materials	3	3
			功能性高分子材料 Functional Polymer Materials	3	3	高分子機械性質 Mechanical Properties of Polymer Materials	3	3	高分子流變學 Polymer Rheology	3	3	奈米材料特論 Selected Topics in Nano-materials	3	3
			高分子結構與物性 Polymer Structure and Physical Properties	3	3	高分子加工與應用 Processing and Applications of Polymeric Materials	3	3	真空薄膜工程 Thin-Films Engineering	3	3	材料表面處理特論 Selected Topics on Surface Treatment of Materials	3	3
			擴散理論 Diffusion Theory	3	3	高分子物理化學 Physical Chemistry of Polymer	3	3	半導體理論與製程 Manufacturing Process of Semiconductor	3	3	IC元件電漿製程 Plasma Processing for Ic Manufacturing	3	3
			結晶化學 Crystallography Chemistry	3	3	電子陶瓷材料 Electronic Ceramics	3	3	表面科學與分析 Surface Science and Analysis	3	3	光學高分子材料 Optical Optoelectrical Polymeric Materials	3	3
			有機光電材料特論 Selected Topics on Organic Optoelectronic Materials	3	3	X-ray繞射學 X-Ray Diffraction	3	3	薄膜製程特論 Selected Topics on Fabrication of Ceramic Film	3	3	陶瓷薄膜製程特論 Selected Topics on Fabrication of Ceramic Films	3	3
			電子顯微鏡學 Electron Microscopy	3	3	陶瓷材料 Ceramics	3	3	光電材料特論 Selected Topics of Optical-Electrical Materials	3	3			
			光電高分子材料特論 Selected Topics of Polymer Optoelectronic Materials	3	3	陶瓷製程特論 Selected Topics of Ceramic Processing	3	3	材料製程之固化現象與理論 Solidification Phenomena and Priniples in Materials Processing	3	3			
			薄膜材料學 Thin Films Materials	3	3	半導體構裝材料與製程特論 Selected Topics of Assembly and Fabrication of Semiconductor Materials	3	3						
			高等複合材料 Advanced Composite Materials	3	3	小角度X光繞射學 Small Angle X-Ray Diffraction	3	3						
			導電性高分子材料 Conducting Polymer Materials	3	3	薄膜材料特論 Selected Topics of Thin Films	3	3						

專業課程	選修 Elective courses		應修學分數 23學分 23 credits of elective courses				顯微技術分析 Characterigation of Materials	3	3						
							電漿原理 Principle of Plasmon Theory	3	3						
							材料檢測技術 Analytical Technique of Material	3	3						
							固態化學 Solid State Chemistry	3	3						
		化工製程領域 Chemical Process		高等輸送現象與單元操作 Advanced transport Phenomena and Unit Operation	3	3	高等程序控制 Advanced Process Control	3	3	程序設計特論 Selected Topics on Process Design	3	3	製程系統工程 System Engineering of Manufacturing Process	3	3
				高等熱力學 Advanced Thermodynamics	3	3	相平衡 Phase Equilibria	3	3	製程整合與電腦輔助設計 Computer Aided Design and Manufacture	3	3			
				觸媒化學特論 Selected Topics of Catalytic Chemistry	3	3	統計與實驗設計 Statistical and Design of Experiments	3	3						
							高等反應工程 Advanced Chemical Reaction Engineering	3	3						
							高等數值分析 Advanced Numerical Analysis	3	3						
		電化學與能源科技領域 Electrochemical and Energy Technology		儲能元件 Energy Storage Devices	3	3	電化學感測器 Electrochemical Sensor	3	3	電化學防蝕技術 Corrosion Protection Technology	3	3	貴金屬電極材料處理技術 Technology of Precious Metal Electrode	3	3
				高等電化學 Advanced Electrochemistry	3	3	電化學合成及分析特論 Synthesis and Analysis For Electrochemistry	3	3	電池製作技術與發展 Development and Fabrication of Batteries	3	3	燃料電池特論 Selected Topics on Fuel Cells	3	3
				能源技術特論 Selected Topics on Energy Technology	3	3				電鍍技術特論 Selected Topics in Electrodeposition Technology	3	3			
				太陽能電池特論 Selected Topic of Solar Cells	3	3									
				電化學特論 Selected Topics in Electrochemistry	3	3									
				平面顯示器原理與應用 Principle and Application for Panel Display	3	3									
		環境科技領域 Environmental Technology		高等環境化學 Advanced Environmental Chemistry	3	3	廢水處理特論 Selected Topics of Waste-Water Treatment	3	3	毒性化學物質處理 Toxic Chemicals Substance Management	3	3	廢棄物處理特論 Selected Topics on Waste Treatment	3	3
				環境工程特論 Selected Topics on Environmental Engineering	3	3	空氣污染防治特論 Selected Topics of Air Pollution Control	3	3	環境毒物學 Environmental Toxicology	3	3	清潔生產特論 Selected Topics in Clean Production	3	3
				奈米環境工程技術特論 Selected Topics of Nanotechnology for Environmental Engineering	3	3	污染防治特論 Selected Topics on Pollution Control	3	3	高級淨水技術 Advanced Water Purification Technology	3	3	環境生物技術特論 Selected Topics of Environmental Biotechnology	3	3
				環境檢測 Environment Examination	3	3									
		生化科技領域 Biochemical Technology		生物技術特論 Selected Topics in Biotechnology	3	3	生化工程特論 Selected Topics in Biochemical Engineering	3	3	生化分離程序 Biochemical Separation process	3	3	生物感測器特論 Selected Topics of Biosensor	3	3
				微生物應用工業 Biological Industry	3	3									

		其他 others		暑期實習 Summer Internship	2	360	計算材料科學特論 Selected Topics of Computational Materials Science	3	3	專題研討(三) Seminar (3)	2	2	專題研討(四) Seminar (4)	2	2		

【工學院 工業工程與管理系】碩士課程結構規劃表

工業工程與管理系　碩士班　113 學年度入學課程結構規劃表

2024 Curricula for the Master's Program in Industrial Engineering and Management

課程類別 Course Category				一年級 1st Academic Year				二年級 2nd Academic Year			
				第一學期 Semester 1			第二學期 Semester 2	第一學期			第一學期 Semester 1
				課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
專業課程 Departmental Professional Courses	必修 Required	必修科目 Required Course	應修學分數 14 學分 Credits Needed:14	專題研討(一) Seminar(1)	2	2	專題研討(二) Seminar(2)	2	2	書報討論(一) Seminar(1)	2	2	書報討論(二) Seminar(2)	2	2
													論文 Thesis	6	6
	選修 Elective	人因設計與生產製造學程 Human Factors Design and Manufacturing Program	應修學分數 24 學分 Credits Needed:24	人因測試與評估/3/3 Testing and Evaluation of Human Factors/3/3 人因分析與設計/3/3 Ergonomic analysis and design/3/3 巨量資料處理與分析/3/3 Mass Data Processing and Analysis/3/3 製程優化/3/3 proccess Optimization/3/3 人機介面/3/3 Human-Machine interaction/3/3 認知人因工程/3/3 Recognition for Human Factor Engineering/3/3						工業 4.0-智慧製造/3/3 Industr4.0- Wisdom Manufacturing/3/3 生產管理實務專題/3/3 Topics of Production Management Practice/3/3 先進製造與管理/3/3 Advanced Manufacturing and Management/3/3			
		統計品管與計量決策學程 Statistical Quality Control and Quantitative Decision-Making Program		資料探勘/3/3 Data Mining/3/3 數據科學/3/3 Data Science/3/3 品質管理專題/3/3 Topics of Quality Management/3/3 機器智能/3/3 Machine Intelligence/3/3 管理績效評估/3/3 Management Performance Evaluation/3/3 模糊理論與應用/3/3 Fuzzy Theory and Applications/3/3 可靠度分析/3/3 Reliability Analysis/3/3						人工智慧/3/3 Artificial Intelligence/3/3 多目標規劃/3/3 Multi-Goal Programming/3/3 機器學習/3/3 Machine Learning/3/3			
		產業經營與電子化學程 Industrial Management and Electrochemistry Program		產業分析與創新/3/3 Industrial Analysis and Innovation/3/3 高科技產業分析/3/3 The Analysis of High Technology Industry/3/3 物聯網與網路行銷/3/3 Internet of Things and Marketing/3/3 企業資源規劃/3/3						產業風險評估與管理/3/3 Industrial Risk Evaluation And Management/3/3 供應鏈與企業電子化/3/3 Supply Chain and E-Business/3/3			

				Enterprise Resource Planning/3/3	
		服務創新與科技管理學程 Service Innovation and Technology Management Program		服務科學與創新/3/3 Service Science and Innovation/3/3 科技與創新管理/3/3 Technology and Innovation Management/3/3 萃思創新方法應用專題 3/3 Application of TRIZ creative method/3/3 科技專案管理/3/3 Technology Project Management/3/3 永續碳管理 3/3 Sustainable Carbon Management/3/3	半導體智慧製造與科技管理專題 3/3 Smart Manufacturing and Technology Management in the Semiconductor Industry/3/3 專利與智財管理/3/3 Patents and Intellectual Property Management/3/3

【工學院 營建工程系】碩士課程結構規劃表

Course Catalog for the Department of Construction Engineering master class for academic year of 2024

Discipline				Freshman year					
				Fall semester			Spring semester		
				Course name	Credit hour	Teaching Hour	Course name	Credit hour	Teaching Hour
Professional courses	Required courses	8 credit hours (Required)		Seminars(I)	1	2	Seminars(II)	1	2
	Elective courses	Structural Engineering Field	24 credit hours (Required)	◎Design,repair,rehabilitation and retrofit of bridge structures	3	3	▲Earthquake Engineering	3	3
				▲Advanced Reinforced Concrete	3	3	Experimental Mechanics	3	3
				Finite Element Method	3	3	Advanced Structure Analysis	3	3
				Theory of Elasticity	3	3	Numerical Analysis	3	3
				◎Advanced Strenght of Materials	3	3	Advanced Engineering Materials (Taught in English)	3	3
				▲Structural Dynamics	3	3	Earthquake - Proof Science Technology	3	3
				▲High-Performance Concrete (Taught in English)	3	3	▲Plasticity and composite Material	3	3
				◎Design of Wood Structures (Taught in English)	3	3	▲Durability Design and Evaluation of Concrete Structures (Taught in English)	3	3
				▲Designof welded steel structures-principal and practice	3	3			
				◎Building Structure Design	3	3	＊Advance Steel Structure (Taught in English)	3	3
				Advance Steel Structure (Taught in English)	3	3			
				Evaluation,Rehabilitation and Retrofit of Bridges (Taught in English)	3	3			
		Engineering Management Field		●Construction Project Planning & Management	3	3	Construction Management Information Systern	3	3
				●Systems Thinking and Learning Organization (Taught in English)	3	3	Engineering Data Analysis	3	3
				●Construction Operations Research	3	3	●International Construction Management	3	3
				Principles Engineering Eoonomics	3	3	●System Dynamics II	3	3
							●Total Quality Management	3	3
							●Productivity Measurement and Control	3	3
							●System Dynamics I	3	3
							＊●◎Construction Operations Research	3	3
		Geotechnical field		Physics and Engineering Properties of Soil	3	3	Soil Dynamics	3	3
				Foundation Analysis and Evaluation	3	3	Slope Stability	3	3
				Ground Water and Seepage	3	3	Numberical Analysis Geotechuical Engineering	3	3
							Theory and Application of Monitoring Technique	3	3
							▲Deep Foundation Engineering	3	3
		construction technology field		Sustainable Construction	3	3	▲Service Life Prediction of Buildings	3	3
				Integration application on informationi technology of smart-building physics	3	3	Selection and Application of Ecological Engineering Materials (Taught in English)	3	3
				▲Building Life Cycle Engineering (Taught in English)	3	3	Analysis and Planning of Engineering Technology Projects	3	3
				▲Special Topic of Building Technology	3	3	▲Construction Systems for Open Building	3	3
				◎Selection and Application of Building Materials	3	3	▲Intelligent Buildings (Taught in English)	3	3
							◎Building Health Diagnosis	3	3
		common elective		Overseas Project-Based Study for Graduate Courses A(I)	2	2	◆Environmental Disasters and Resiliency	3	3
				Overseas Project-Based Study for Graduate Courses B(I)	3	3	Overseas Project-Based Study for Graduate Courses A(II)	2	2
				◎BIM 3D Engineering Calculation	3	3	Overseas Project-Based Study for Graduate Courses B(II)	3	3
				Disaster risk management strategies	3	3			

Discipline				Sophomore year					
				Fall semester			Spring semester		
				Course name	Credit hour	Teaching Hour	Course name	Credit hour	Teaching Hour
Professional courses	**Required courses**	8 credit hours (Required)		Thesis	6	0	Thesis	6	0
	Elective courses	Structural Engineering Field	24 credit hours (Required)	▲Diagnosis and Repair of Concrete Structures	3	3	▲Structural Control	3	3
				▲Seismic Structural Control	3	3	▲Advanced Reinforced Concrete	3	3
				▲Advanced	3	3	▲Seismic design of steel structure	3	3
							▲Theory of Vibration	3	3
							▲Engineering Testing and Monitoring	3	3
		Engineering Management Field		Electronic Commerce in Construction Industry	3	3	Applications of Nonlinear Models in Engineering Management	3	3
				Engineering Forensics	3	3	●Construction Claims	3	3
				Real Estate Investment	3	3	●◎Bidding and selection for the most advantageous tender	3	3
				●Decision Analysis and Research Methods	3	3			
		Geotechnical field		Rock Mechanics	3	3	▲Slope engineering and ecological technology (Taught in English)	3	3
				Applied Soil Mechanics	3	3	▲Tunnel Engineering	3	3
				Geotechnical Earthquake Engineering	3	3	Design and Construction of Pavement	3	3
				Practioe on Geotechnical engineering	3	3			
		construction technology field		Building Energy Conservation Systems	3	3	Environmental Management for the Sustainable Building	3	3
				▲Theory of Open Building(I)	3	3	Project-Based Study of Integrated Engineering Technology	3	3
				▲Special Topics in Architectural Production	3	3	▲Theory of Open Building(II)	3	3

【工學院 環境與安全衛生工程系】碩士課程結構規劃表

2024 Curricula for the Master's Program in Department of Safety, Health and Environmental Engineering

Course Category				1st Academic Year						2nd Academic Year					
				Semester 1			Semester 2			Semester 1			Semester 2		
				Course Name	Credits	Hours	Course Name	Credits	Hours	Course Name	Credits	Hours	Course Name	Credits	Hours
Departmental Professional Courses	Required	Common areas	Credits Needed 6				Thesis	6	0	Thesis	6	0	Thesis	6	0
	Elective	Common selectives.	All, courses must be taken and passed successfully.	Seminar(I)	1	2	Seminar (II)	1	2	Seminar(III)	1	2	SeminarIV	1	2
		Common areas	Number of Courses Needed 10/ Credits Needed 30	Theory and Practice of Environmental Analysis(I)	0.5	0.5				Theory and Practice of Environmental Analysis(I)	0.5	0.5	Waste Biomass Management and Resource Recycling I	0.5	0.5
				Theory and Practice of Environmental Analysis(II)	0.5	0.5	Technical Writing and Presentation	3	3	Theory and Practice of Environmental Analysis(II)	0.5	0.5	Waste Biomass Management and Resource Recycling II	0.5	0.5
				Advanced Engineering Mathematics	3	3	Special Topics in Instrumental Analysis	3	3	Experimental Design	3	3	Advanced Fluid Mechanics	3	3
		Environmental Engineering field		Selected Topics for Environmental Chemistry	3	3	Special Topics in sustainable Development and Cleaner Production	3	3	Indoor Air Quality Management	3	3	Industrial Air Pollution Control	3	3
				Special Topics in Hazardous Wastes Treatment	3	3	Biological Treatment of Wastewater System	3	3	Ground Water Pollution Treatment	3	3	Soil Pollution and Remediation	3	3
				Special Topics in Industrial Wastewater Treatment	3	3	Environmental Planning & Management	3	3	Special Topics in Environmental Impact Assessment	3	3	Practical wastewater treatment in field of high technology	3	3
				Dispersion and Monitoring of Air Pollution	3	3	Principles of Environmental Treatment Processes(II)	3	3	Special Topics of Eco-Industrial Park and Resources Recovery	3	3	Special topics in unit operations of resource recovery	3	3
				Special Topics in Incineration Engineering	3	3	Environmental Management System	3	3	Environmental Chemodynamics	3	3	Biogeochemical Processes	3	3
				Principles of Environmental Treatment Processes(I)	3	3	water treatment engineering design	3	3				Spatial Analysis	3	3
							Air Pollution Control Device Design	3	3						
							Selected Topics for Transport phenomena of pollutants	3	3						
							Special Topics in Climate Change and Energy Supply	3	3						
		Safety field		Design for Inherent safety	3	3	Quantitative Risk Analysis	3	3	Electrical Phenomena and Safety	3	3	Special Topics in Safety Engineering	3	3
				Process Safety and Health in the Semiconductor Industry	3	3	Special Topics in Safety Design	3	3	Process Safety Management	3	3	Hazard Mitigation Technology	3	3
				Fire and Explosion	3	3				Advanced Fire Safety Engineering	3	3	The Design of Smoke Management System and Evacuation System in Fire	3	3
				Risk Management of Process Equipment and Machinery	3	3				Emergency Response for Hazardous Materials Incidents	3	3			
				Reliability Analysis	3	3									
		Health field		Special Topics in Industrial Health	3	3	Industrial and Environmental Toxicology	3	3	Occupational Desease and Epidemiology	3	3	Special Topics in Biological Monitoring	3	3

				Special topics in Biostatistics	3	3	Aerosol Science and Technology	3	3	Working Environment Control Engineering	3	3
										Special Topics in Exposure Assessment	3	3

【電機與資訊學院 電機工程系】碩士課程結構規劃表

Curriculum for Master Program in Department of Electrical Engineering, 2024

電機工程系　碩士班　113 學年度入學課程結構規劃表

國立高雄科技大學 電機工程系 113.12.16

課程類別 Course category			一年級 Grade 1						二年級 Grade 2						三年級 Grade 3					
			Semester 1 第一學期			Semester 2 第二學期			Semester 1 第一學期			Semester 2 第二學期			Semester 1 第一學期			Semester 2 第二學期		
			課程名稱 Course name	學分數 Cr.	時數 Hr.	課程名稱 Course name	學分數 Cr.	時數 Hr.	課程名稱 Course name	學分數 Cr.	時數 Hr.	課程名稱 Course name	學分數 Cr.	時數 Hr.	課程名稱 Course name	學分數 Cr.	時數 Hr.	課程名稱 Course name	學分數 Cr.	時數 Hr.
學院共同課程（由學院開課）	必修																			
	選修		開關變換器的基本設計與分析微學分/1/1 機器人競賽與挑戰微學分/1/1 低碳能源產業與技術微學分/1/1 網路與排隊理論/3/3 微波工程與應用/3/3 低碳能源技術導論微學分/1/1 再生能源導論微學分/1/1															
學院跨領域課程（由學院開課）	選修		區塊鏈技術與應用/3/3 區塊鏈智能合約實務/3/3																	
專業課程 Professional Courses	必修 Required	應修學分數/14 學分 14 credits	專題研討(一) Seminar(1)	2	2	專題研討(二) Seminar(2)	2	2	專題研討(三) Seminar(3)	2	2	專題研討(四) Seminar(4)	2	2						
												論文 Thesis	6	6						
	選修 Elective	應修學分數/24 學分 24 credits	重構電力系統運轉/3/3 Reconstruction of Power System Operation/3/3 適應控制系統/3/3 Adaptive Control System/3/3 網路資料庫設計/3/3 Internet Database Design/3/3 最佳化方法/3/3 Optimization Approaches/3/3 基因演算法與應用/3/3 Genetic Algorithm and Application/3/3 電力電子學專論/3/3 Special Topics On Power Electronics/3/3 線性系統分析與設計/3/3 Linear System Analysis and Design/3/3 英文科技論文寫作/3/3 English Scientific Reports and Writing/3/3 電力監控專論/3/3 Special Topics On Power SCADA/3/3 資料倉儲應用/3/3 The Application Data Warehouse/3/3 雲端與叢集運算/3/3 Cloud and Cluster Computing/3/3 暑期實習/2/2 光電系統設計專論/3/3 Topics of Optoelectronic System Design/3/3 配電系統自動化/3/3 Distribution Automation/3/3 電腦視覺/3/3 Computer Vision/3/3 再生能源/3/3 Renewable Energy/3/3 電力系統運轉/3/3 Power System Operation/3/3 電力系統經濟調度/3/3 Power System Economic Dispatch/3/3 電力系統可靠度/3/3 Reliability of Power System/3/3 電力系統品質/3/3 The Quality Analysis of Power System/3/3 現代電力系統分析/3/3 Modern Power System Analysis/3/3																		

			保護協調專論/3/3 Power System Protection/3/3 風能發電專案研究/3/3 Wind Energy Project Analysis/3/3 智慧財產權概論/3/3 Introduction To Intellectual Property Rghts/3/3 計算機模擬/3/3 Computer Simulation/3/3 光電工程專論/3/3 Topics of Photonic Engineering/3/3 固態電源轉換/3/3 Solid-State Power Converters/3/3 再生能源電力轉換介面/3/3 Power Converter Interface for Renewable Energy/3/3 圖形識別/3/3 Pattern Recognition/3/3 自動控制專論/3/3 Topics of Automatic Control/3/3 高速網路/3/3 High-Speed Networks/3/3 進階資訊系統設計/3/3 Advanced Design of Information Systems/3/3 綠能科技專論/3/3 Special Topics On Green Energy Technology/3/3 高等社群計算/3/3 Advanced Social Computing/3/3 類神經網路/3/3 Neural Networks/3/3 社群網路/3/3 Social Networks/3/3 視覺伺服/3/3 Visual Servo/3/3 切換式電能模型與模擬/3/3 Switched Mode Power Modeling and Simulation/3/3 高等計算機模擬/3/3 Advanced Computer Simulation/3/3 資訊安全專論/3/3 Study on information security/3/3 教學實習微學分/1/1 Micro Credits Course for Teaching Practice/3/3 無線網路服務品質/3/3 Quality of Service in Wireless Networks/3/3 科技管理實務應用/3/3 Technology Management Practice/3/3 電力資訊整合設計/3/3 Power Information Integrated Design/3/3 智慧電網專論/3/3 Smart Grid Special Topic/3/3 光學設計/3/3 Optics Design/3/3 光電技術與實務/3/3 Optical Technology and Practice/3/3 資料探勘/3/3 Data Mining/3/3 機器人控制/3/3 Robot Control/3/3 物聯網專論/3/3 Topics of Internet of Things/3/3 人工智慧應用/3/3 Artificial Intelligence Applications/3/3 數位控制系統設計/3/3 Digital Control System Design/3/3 電能控制與管理/3/3 Electrical Energy Control and Management/3/3 電力電子應用專論/3/3 Special Topics On Power Electronics Application/3/3 模糊理論與應用/3/3 Fuzzy Theory and Applications/3/3 非線性控制/3/3 Nonlinear Control/3/3 最佳化估算/3/3 Optimal Estimation/3/3 資訊檢索/3/3 Information Retvieval/3/3 無線通訊及網路/3/3 Wireless Communications and Nwteorks/3/3 高等計算機網路/3/3 Advanced Computer Network/3/3 高等計算機模擬/3/3 Advanced Computer Simulation/3/3 高等數位信號處理/3/3 Advance Digital Signal Process/3/3 多媒體通訊系統/3/3 Multimedia Communication Systems/3/3 分散式系統/3/3 Distributed Systems/3/3 多核心運算/3/3 Multicore Computing/3/3 電力品質改善技術專論/3/3 Special Topics for Power Quality Improvement/3/3 馬達驅動器專論/3/3 Special Topics On Motor Driver/3/3 強健控制/3/3 Robust Control/3/3 文件探勘與自然語言處理/3/3 Text Mining and Nature Language Processing/3/3 接取網路專論/3/3 Advanced Access Network Technology/3/3

			數位電源分析暨實習/3/3 Digital Power Laboratory/3/3 綠能與儲能應用專論/3/3 Special Topics On Green Energy and Energy Storage/3/3 資料科學與大數據應用/3/3 Data Science and Big Data Applications/3/3 微電網/3/3 Microgrids/3/3 切換式電能轉換分析/3/3 Switched Mode Power Conversion Analysis/3/3 專利專論/3/3 Special Topics On Patents/3/3 類神經網路應用/3/3 Artificial Neural Networks with Applications/3/3 機器學習與機器人應用/3/3 Machine learning in robotics/3/3 5G結合AI於智慧製造控制系統應用設計/3/3 5G combined with AI in smart manufacturing control system application design/3/3 人機互動專論/3/3 Study on Human computer interaction/3/3 電磁控制於自動化工程應用/3/3 Application of electromagnetic control ic automation engineering/3/3 控制系統數值分析 3/3(新增) Numerical Analysis of Control Systems/3/3 機電控制應用 3/3(新增) Mechatronics and Control Applications/3/3

國立高雄科技大學 電機工程系

114.12.16

【電機與資訊學院 電子工程系(建工校區)】碩士課程結構規劃表

電子工程系 碩士班 113 學年度入學課程結構規劃表

2024 Curricula for the Master's Program in Department of Electronic Engineering (Jiangong Campus)

課程類別 Course Category				一年級 1st Academic Year						二年級 2nd Academic Year					
				第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2		
				課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
學院共同課程（由學院開課） College Common Courses	選修 Elective			開關變換器的基本設計與分析微學分/1/1 Basic design and analysis of switching converters/1/1 機器人競賽與挑戰微學分/1/1 Robotics competition and challenge/1/1 網路與排隊理論/3/3 Data Networks and Queuing Theory/3/3 微波工程與應用/3/3 Microwave Engineering and Applications/3/3 低碳能源技術導論微學分/1/1 Introduction on Technologies of Low Carbon Energy/1/1 再生能源導論微學分/1/1 Introduction to Renewable Energy/1/1											
學院跨領域課程（由學院開課） College Interdisciplinary Courses	選修 Elective			區塊鏈技術與應用/3/3 Blockchain Technology and Application/3/3 區塊鏈智能合約實務/3/3 Block Chain Smart Contract Practice/3/3											
專業課程 Professional Courses	必修 Required		應修學分數 14 學分 14 Credits Needed	專題研討〈一〉 Seminar (1)	2	2	專題研討〈二〉 Seminar (2)	2	2	專題研討〈三〉 Seminar (3)	2	2	專題研討〈四〉 Seminar (4)	2	2
										論文 Thesis	6	6	論文 Thesis	6	6
	選修 Elective	電子組 Electronics Group	應修學分數 24 學分 24 Credits Needed	固態電子學/3/3 Solid State Electronic/3/3 工程量子力學/3/3 Engineering Quantum Mechanics/3/3 半導體材料及物理/3/3 Semiconductor Materials and Physics/3/3			電子元件原理/3/3 Principle of Electronic Devices/3/3 半導體元件製程/3/3 Fabrication of Semiconductor Devices/3/3 類比濾波電路/3/3 Analog Filter Circuits/3/3 深次微米 MOS 元件理論/3/3			材料科學/3/3 Foundations of Materials Science and Engineering/3/3 量子元件/3/3 Quantum Devices/3/3			光電元件/3/3 Optoelectronic Devices/3/3		

課程類別 Course Category				一年級 1st Academic Year				二年級 2nd Academic Year			
				第一學期 Semester 1		第二學期 Semester 2		第一學期 Semester 1		第二學期 Semester 2	
				課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours
				光電子學/3/3 Photonics/3/3 高等類比積體電路/3/3 Advanced Analog Integrated Circuit/3/3 電子儀器專論/3/3 Special Topic On Electronic Instrumentation/3/3 VLSI 電路測試/3/3 Vlsi Circuit Testing/3/3 光電工程/3/3 Optoelectronic Engineering/3/3 電子電路與系統/3/3 Electronic Circuit and Systems/3/3 元件物理/3/3 Physics of Semiconductor Devices/3/3 記憶體元件與製程/3/3 Introduction To Memory Device and Process/3/3 類比濾波器合成/3/3 Synthesys of Analog Filter/3/3 微機電概論/3/3 Introduction to MEMS/3/3 高頻電路及訊號量測/3/3 High-Frequency Circuits and Signal Measurements/3/3 新材料 IC 元件/3/3 New Materials IC Devices/3/3		Deep Sub Micro MOS Devices/3/3 半導體工程原理/3/3 Principles of Semiconductor Engineering/3/3 發光二極體專論/3/3 Special Topic On Light Emitting Diodes/3/3 電子控制器之設計/3/3 Design of Electronic Controller/3/3 奈米工程概論/3/3 Introduction to Nano Engineering/3/3 幾何光學/3/3 Geometric optics/3/3 類比積體電路符號分析/3/3 Symbolic Analysis in Analog Integrated Circuit/3/3 新結構電子元件/3/3 New Structural Electronic Devices/3/3 雷射工程/3/3 Laser Engineering/3/3 類比積體電路設計與應用/3/3 Design and Application of Analog Integrated Circuits/3/3			
		電信與系統組 Communication and System Group		隨機信號處理/3/3 Random Signal Processing/3/3 數位信號處理/3/3 Digital Signal Processing/3/3		數位通訊/3/3 Digital Communications/3/3 數位濾波器/3/3 Digital Filter/3/3		適應性濾波器/3/3 Adaptive Wave Filters/3/3 高頻電路設計/3/3 Rf Circuit Design/3/3		展頻通訊/3/3 Spread Spectrum Communications/3/3 統計訊號處理/3/3	

課程類別 Course Category		一年級 1st Academic Year				二年級 2nd Academic Year			
		第一學期 Semester 1		第二學期 Semester 2		第一學期 Semester 1		第二學期 Semester 2	
		課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours
		通訊原理/3/3 Communication Theory/3/3		小型天線設計/3/3 Small Antenna Design/3/3		檔集演算法/3/3 Clustering Algorithms/3/3		Statistic Signal Process/3/3 衛星通訊/3/3 Satellite Communications/3/3	
		光纖通訊/3/3 Optical Fiber Communications/3/3 電磁理論/3/3 Electromagnetic Theory/3/3 微帶天線設計/3/3 Microstrip Antenna Design/3/3 模糊理論與應用/3/3 Fuzzy Theory and Applications/3/3 影像處理/3/3 Image Processing/3/3 電源與電池管理系統設計概論/3/3 Design and Introduction of Power and Battery Management/3/3 系統雛型與軟硬體整合設計/3/3 System Prototype and Integrated Hardware/Software Design/3/3 物聯網核心應用/3/3 Internet of Things Core Applications/3/3 保健物理專論/3/3 Health Physics Monograph/3/3 信息理論與編解碼/3/3 Coding and Information Theory/3/3 醫學物理與資訊/3/3		光學網路/3/3 Optical Network/3/3 類神經網路設計與應用/3/3 Neural Networks Design and Applications/3/3 無線通訊電路/3/3 Wireless Communication Circuit/3/3 光通訊積體電路設計/3/3 Design of Integrated Circuits for Optical Communications/3/3 物聯網系統安全/3/3 Internet of Things (IoT) Security/3/3 智慧電能監控系統/3/3 Intelligent Energy Monitor System/3/3 醫學工程/3/3 Medical Engineering/3/3 物聯網核心技術/3/3 Core Technology for Internet Of Things/3/3 醫學工程應用/3/3 Medical Engineering Application/3/3 醫用加速器專論/3/3 Monographs of Medical Accelerators/3/3 輻射度量與訊號處理/3/3 Radiation Measurement and Signal Processing/3/3 數值光波導/3/3 Numerical Analysis of Optical Waveguide/3/3 表面電漿子/3/3		大數據應用/3/3 Big Data Applications/3/3 物聯網系統與應用/3/3 Networking Systems and Applications/3/3 生物統計學/3/3 Biostatistics/3/3 全光式元件/3/3 All Optical Devices/3/3 非線性表面電漿元件/3/3 Nonlinear Plasma Surface Element/3/3 機器學習數學/3/3 Mathematics for Machine learning/3/3 物聯網安全與隱私/3/3 IoT security and privacy paradigm/3/3		非線性波導光學/3/3 Nonlinear Waveguide/3/3 左手物質/3/3 Left-Handed Material/3/3 智慧生醫感測技術 /3/3 Smart biosensor technology/3/3 智慧生醫信號分析與影像分析/3/3 Bio-signal analysis/3/3 5G 數位通訊/3/3 5G Digital communications/3/3	

課程類別 Course Category			一年級 1st Academic Year				二年級 2nd Academic Year			
			第一學期 Semester 1		第二學期 Semester 2		第一學期 Semester 1		第二學期 Semester 2	
			課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours
			Medical Physics and Informatics/3/3 矽光子/3/3 Silicon Photonics/3/3 光子超物質/3/3 Photonic Metamaterial/3/3 衛星通訊/3/3 Satellite Communications/3/3 精準醫學健康/3/3 Precision health and medicine/3/3 人工智慧於健康福祉應用 3/3 Application of Artificial Intelligence in Health and Welfare/3/3		Surface Plasmon/3/3 石墨烯表面電漿/3/3 Graphene Plasmonics/3/3 智慧城市設計/3/3 Smart City Design/3/3 工業物聯網資安威脅檢測與防護/3/3 Industrial IoT security threat detection and protection/3/3 人工智慧於臨床醫學照護實務/3/3 Artificial Intelligence In Clinical Application And Practice/3/3 低軌衛星系統/3/3 LEO satellite system/3/3 統計學習類神經網路/3/3 Statistical learning using neural network/3/3				
	資訊組 Information and Digital IC Design Group		網路程式設計進階/3/3 Advanced Network Programming/3/3 通訊協定與模擬/3/3 Communication Protocol and Simulations/3/3 資訊理論/3/3 Information Theory/3/3 車載嵌入式通訊與週邊設備應用程式設計/3/3 Programming for Communication and Peripherals of Embedded Systems/3/3 機器人學/3/3 Robotics/3/3 智慧型演算法/3/3 Intelligent Algorithms 機器人視覺/3/3		機器學習/3/3 Machine Learning/3/3 嵌入式系統設計與應用/3/3 Principle of Embedded Computing System Design/3/3 多媒體訊號處理/3/3 Multimedia Signal Processing/3/3 智慧型資訊安全系統/3/3 Intelligent Information Security System/3/3 創新應用服務技術/3/3 Technolgy of Innovation Using Service System/3/3 智慧型機器人實務與應用/3/3 Intelligent Robot Application and Practice/3/3 創新服務應用系統開發/3/3 Development of Innovation Applications and Services/3/3		生物資訊學/3/3 Introduction To Computational Biology/3/3 智能計算/3/3 Intelligent Calculation/3/3 前瞻高科技系統發展/3/3 Future Development of High-tech Systems/3/3 演化式計算與應用/3/3 Evolutionary computation and application/3/3 資料探勘/3/3 Data Mining/3/3		生物統計/3/3 Biological Statistics/3/3 智慧生活/3/3 Smart Living/3/3 巨量資料分析/3/3 Big Data Analysis/3/3	

課程類別 Course Category	一年級 1st Academic Year				二年級 2nd Academic Year			
	第一學期 Semester 1			第二學期 Semester 2		第一學期 Semester 1		第二學期 Semester 2	
	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
	Robot Vision/3/3 生物資訊概論/3/3 Introduction to Bioinformatics/3/3 軟體工程/3/3 Software Engineering/3/3 人工智慧/3/3 Artificial Intelligence/3/3 影像和視訊處理/3/3 Image and Video Processing/3/3 大數據導論/3/3 Introduction to Big Data/3/3			智慧型計算與應用/3/3 Intelligent Calculation and Application/3/3 啟發式最佳化方法/3/3 Heuristic Optimization Methods/3/3 雲端智慧生活設計/3/3 Design of Cloud Smart Living/3/3 高等生物資料庫系統/3/3 Advanced Biological Database/3/3 高等隨機程序/3/3 Higher Random Program/3/3 深度學習之電腦視覺應用/3/3 Deep Learning on Computer Vision Application/3/3 資料壓縮與應用/3/3 Data Compression and Application/3/3 機電整合/3/3 Mechatronics/3/3								
人工智慧與資訊安全組 Artificial Intelligence and Information Security Group	人工智慧/3/3 Artificial Intelligence/3/3 模糊理論與應用/3/3 Fuzzy Theory and Applications/3/3 機器人學/3/3 Robotics/3/3 影像壓縮/3/3 Image Compression/3/3 應用程式設計/3/3 Applied Program Design/3/3 機器人視覺/3/3 Robot Vision/3/3 生物資訊概論/3/3 Introduction to Bioinformatics/3/3 信息理論與編解碼/3/3			人工智慧晶片設計實務/3/3 AI Chip Design Practice/3/3 機器學習/3/3 Machine Learning/3/3 類神經網路設計與應用/3/3 Neural Networks Design and Applications/3/3 物聯網核心技術/3/3 Core Technology for Internet Of Things/3/3 智慧型機器人實務與應用/3/3 Intelligent Robot Application and Practice/3/3 智慧型計算與應用/3/3 Intelligent Calculation and Application/3/3 啟發式最佳化方法/3/3			生醫晶片設計/3/3 Biomedical Chip Design/3/3 智慧型演算法/3/3 Intelligent Algorithms/3/3 物聯網系統與應用/3/3 Networking Systems and Applications/3/3 深度學習/3/3 Deep Learning/3/3 智能計算/3/3 Intelligent Calculation/3/3 電腦網路入侵偵測與防護/3/3 Intrusion Detection and Protection of Computer Networks/3/3			智慧城市設計/3/3 Smart City Design/3/3 統計訊號處理/3/3 Statistic Signal Process/3/3 生物統計/3/3 Biological Statistics/3/3 大數據應用/3/3 Big Data Applications/3/3 區塊鏈技術理論與實作/3/3 Block Chain: Theory and Practice/3/3 開源碼架構之系統安全實務/3/3 Security Practice of Open-Source System/3/3		

課程類別 Course Category			一年級 1st Academic Year				二年級 2nd Academic Year			
			第一學期 Semester 1		第二學期 Semester 2		第一學期 Semester 1		第二學期 Semester 2	
			課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours	課程名稱 Course Name	學分數 Credits / 時數 Hours
			Coding and Information Theory/3/3 軟體工程/3/3 Software Engineering/3/3 資訊安全進階/3/3 Advanced Information Security/3/3 植基於機器學習之分散式阻斷服務攻擊偵測/3/3 Distributed DoS Attack Detection based on Machine Learning/3/3 資安風險評估/3/3 Risk Assessment of Information Security/3/3 大數據導論/3/3 Introduction to Big Data/3/3		Heuristic Optimization Methods/3/3 雲端智慧生活設計/3/3 Design of Cloud Smart Living/3/3 高等隨機程序/3/3 Higher Random Program/3/3 網路攻防實務/3/3 The Practice of Network Attack and Defense/3/3 物聯網系統與應用/3/3 Networking Systems and Applications/3/3 智慧型資訊安全系統/3/3 Intelligent Information Security System/3/3 物聯網系統安全/3/3 Internet of Things (IoT) Security/3/3 工業物聯網資安威脅檢測與防護/3/3 Industrial IoT security threat detection and protection/3/3 人工智慧於臨床醫學照護實務/3/3 Artificial Intelligence In Clinical Application And Practice/3/3		網路安全/3/3 Network Security/3/3 系統安全防禦實務/3/3 System Security and Defense Practice/3/3 記憶體於人工智慧之應用/3/3 Application of Memory on Artificial Intelligence/3/3 演化式計算與應用/3/3 Evolutionary computation and application/3/3 資料探勘/3/3 Data Mining/3/3		智慧生活/3/3 Smart Living/3/3 巨量資料分析/3/3 Big Data Analysis/3/3	
		其他 Others	科技英文寫作/2/2 Technical English Writing/2/2 科技英文 (一) /3/3 Technology English (1)/3/3 工程英文 (一) /3/3 Engineering English (1)/3/3 英文閱讀與寫作/2/2 English Reading and Writing/2/2 國際學生指引(一) /1/1 International Student Guidance (1)/1/1 光電元件/3/3		進階科技英文寫作/2/2 Advanced Technology English Writing/2/2 科技英文(二) /3/3 Technology English (2)/3/3 工程英文 (二) /3/3 Engineering English (2)/3/3 英文科技論文寫作/2/2 English Scientific Reports and Writing/2/2 國際學生指引(二)/1/1		研究與實習/3/3 Research and Internship/3/3 醫療資料分析實務/3/3 medical data analysis practices/3/3			

課程類別 Course Category				一年級 1st Academic Year				二年級 2nd Academic Year			
				第一學期 Semester 1				第二學期 Semester 2			
				課程名稱 Course Name	學分數 Credits	時數 Hours		課程名稱 Course Name	學分數 Credits	時數 Hours	
				Optoelectronic Devices/3/3 材料科學與應用(一) /3/3 Materials Science and Applications (1)/3/3 傅氏光學/3/3 Fourier Optics/3/3 教學實習微學分/1/1 Micro Credits Course for Teaching Practice/1/1 固態電子電路設計/3/3 Solid-state electronic circuit design/3/3 數值光子晶體/3/3 Numerical Photonic Crystal/3/3 醫學物理與資訊/3/3 Medical Physics and Informatics/3/3 醫電專論/3/3 Topics on Bioelectronics and Bioinformatics/3/3 生物統計學/3/3 Biostatistics/3/3 MATLAB 圖形使用者介面應用於生醫訊號分析/3/3 MATLAB Graphic User Interface for Biomedical Signal Analysis/3/3 電子領域專題研討/2/2 Seminar on Electronics/2/2				International Student Guidance (2)/1/1 薄膜技術/3/3 Thin Film Technology/3/3 材料科學及應用(二) /3/3 Material Science and Applications(2)/3/3 高等工程統計學/3/3 Higher Engineering Statistics/3/3 解剖及生理學導論/3/3 Introduction to Anatomy and Physiology/3/3 人工智慧/3/3 Artificial Intelligence/3/3 醫療資料分析/3/3 medical data mining/3/3 高階醫用數學/3/3 advanced medical mathematics/3/3 資訊科技專題研討/2/2 Seminar on Information Technology/2/2 影像處理晶片設計專論/3/3 Special Topics on Image Processing Chip Design/3/3			

【電機與資訊學院 電子工程系(第一校區)】碩士課程結構規劃表

電子工程系(第一校區) 碩士班　113 學年度入學課程結構規劃表

2024 Curricula for the Master's Program in Department of Electronic Engineering (First Campus)

課程類別 Course Category		一年級 1st Academic Year						二年級 2nd Academic Year					
		第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第一學期 Semester 2		
		課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
學院共同課程（由學院開課） College Common Courses	選修 Elective	開關變換器的基本設計與分析微學分/1/1 Basic design and analysis of switching converters/1/1 機器人競賽與挑戰微學分/1/1 Robotics competition and challenge/1/1 網路與排隊理論/3/3 Data Networks and Queuing Theory/3/3 微波工程與應用/3/3 Microwave Engineering and Applications/3/3 低碳能源技術導論微學分/1/1 Introduction on Technologies of Low Carbon Energy/1/1 再生能源導論微學分/1/1 Introduction to Renewable Energy/1/1											
學院跨領域課程（由學院開課） College	選修 Elective	區塊鏈技術與應用/3/3 Blockchain Technology and Application/3/3 區塊鏈智能合約實務/3/3 Block Chain Smart Contract Practice/3/3											

Interdisciplinary Courses																
專業課程 Professional Courses	必修 Required	5 門/ 14 學分 14 Credits Needed	專題演講(一) Special Seminars(Ⅰ)	2	2	專題演講(二) Special Seminars(Ⅱ)	2	2	論文 Thesis	6	6	論文 Thesis	6	6
			專題討論(一) Engineering Seminars(Ⅰ)	2	2	專題討論(二) Engineering Seminars(Ⅱ)	2	2						
						論文 Thesis	6	6						
	選修 Elective	應修課程數/ 應修學分數 27 Credits Needed	超大型積體電路設計實習/3/3 VLSI Design Laboratory/3/3 再生能源電力轉換設計/3/3 Power Converter Design for Renewable Energy/3/3 系統晶片設計實習/3/3 System-on- Chip design Laboratory/3/3 節能照明設計/3/3 Energy Conservation and Illumination Design/3/3 電力轉換器製作與模擬實習/3/3 Power Converter Hand-on Experience and Simulation Practice/3/3 特殊應用積體電路設計/3/3 ASIC Chip Design/3/3			超大型積體電路設計/3/3 VLSI Design/3/3 嵌入式系統設計/3/3 Embedded System Design/3/3 系統晶片設計/3/3 Introduction to System-on-Chip Design/3/3 類比積體電路設計/3/3 Analog IC Design/3/3 軟硬體協同設計/3/3 Hardware/Software Co-design/3/3 分散式能源整合系統/3/3 Distributed Energy Combination System/3/3 電力轉換電路設計/3/3 Power Conversion Circuits Design/3/3			專題演講(三)/2/2 Special Seminars(Ⅲ)/2/2 電子產業學期實習(一)/3/3 Field Practice(Ⅰ)on Electronic Industry/3/3			專題演講(四)/2/2 Special Seminars(Ⅳ)/2/2 射頻積體電路設計/3/3 RF Integrated Circuit Design/3/3 電子產業學期實習(二)/3/3 Field Practice(Ⅱ)on Electronic Industry/3/3 軌道通訊系統實務/3/3 Railway Communication System practices/3/3		

			太陽能發電系統實習/3/3 Solar Energy Supply System Practice/3/3 鐵路信號與系統概論/3/3 Introduction to Railway Signals and Systems/3/3 射頻無線通訊系統/3/3 RF Wireless Communication Systems/3/3 無線通訊與微波電路實習/3/3 Wireless communication and microwave circuit laboratory/3/3 產業實務實習/3/3 Industrial Practice/3/3 機器學習與實作/3/3 Machine Learning and Practice/3/3 論文寫作/2/2 Research Writing/2/2 先進電能轉換器設計與分析/3/3 Design and Analysis of Advanced Energy Converters/3/3 高等影像處理/3/3 Advanced image processing/3/3	微波電路實習/3/3 Microwave circuit laboratory/3/3 電能儲存與電力轉換技術/3/3 Power Energy Storage and Power Conversion Techniques/3/3 嵌入式系統設計實習/3/3 Embedded System Design and Practice/3/3 智能系統與物聯網技術應用/3/3 Intelligent Systems and Technology Things/3/3 智慧型電網概論/3/3 Introduction to Smart Grid/3/3 嵌入式影像處理/3/3 Embedded Image Processing/3/3 微波工程與應用/3/3 Microwave Engineering and Applications/3/3 視訊壓縮與通訊/3/3 Video Coding and Communication/3/3 邏輯合成/3/3 Logic Synthesis/3/3	

			影像辨識/3/3 Image recognition/3/3 鐵道技術研討(一) /3/3 Railway Technology Research(I)/3/3 車輛系統實務/3/3 Vehicle System Practices/3/3 鐵道技術研討(三) /3/3 Railway Technology Research(III)/3/3 鐵道電力系統實務/3/3 Railway Power System Practices/3/3 軌道工程規範及 RAMS (EN50126)實證應用/3/3 Track Work Specification & RAMS(EN50126) Empirical Application/3/3 高鐵系統實務/3/3 High Speed Rail System Practices/3/3 自動化光學檢測技術與應用/3/3 Automated Optical Inspection Technology and Application/3/3 台鐵號誌系統實務/3/3 Taiwan Railways Signalling System Practices/3/3	天線工程/3/3 Antenna Engineering/3/3 電力轉換器分析與產業應用/3/3 Power Converter Analysis and Industrial Applications/3/3 視訊通訊/3/3 Video Communication/3/3 微波工程/3/3 Microwave Engineering/3/3 無線接取網路/3/3 Wireless Access Network/3/3 行動通訊網路/3/3 Mobile Communication Networks/3/3 鐵道技術研討(二)/3/3 Railway Technology Research(II)/3/3 輕軌號誌系統實務/3/3 Light Rail Signalling System Practices/3/3 鐵道技術研討(四) /3/3 Railway Technology Research(IV) /3/3	

			微波濾波器設計實作/3/3 Practical Microwave Filters Design/3/3 進階電能轉換器控制與優化/3/3 Advanced Energy Converter Control and Improvement/3/3 軌道號誌系統實務/3/3 Railway Signalling System practices/3/3	聯鎖系統及周邊系統實務/3/3 Railway Practice: Interlocking and Peripheral System/3/3 CMOS 數位積體電路設計/3/3 CMOS digital integrated circuit design/3/3 軌道車輛機械系統實務/3/3 Railway Vehicle Mechanical System Practices/3/3 自動收費系統實務/3/3 Automatic Fare Collection System Practices/3/3 台鐵通訊系統實務/3/3 Taiwan Railways Communication System Practices/3/3 鐵道資安系統攻擊與防護/3/3 Railway Information Security System Attack & Protection/3/3 無線通訊技術/3/3 Wireless Communication Technologies/3/3 軌道工程 RAMS 規範及實證應用系列-EN50129 /3/3	

				RAMS Specification for Track Engineering & Empirical application - EN50129 /3/3 鐵道專案系統工程與保證系列/3/3 Series of System Engineering and Assurance for Railway Projects/3/3 鐵道數據分析與 AI 優化/3/3 Railway Data Analysis and AI Optimization/3/3	

【電機與資訊學院 資訊工程系】碩士課程結構規劃表

資訊工程系　碩士班　113 學年度入學課程結構規劃表

2023 Curricula for the Master's Program in Department of Computer Science and Information Engineering

課程類別 Course Category			一年級 1st Academic Year						二年級 2nd Academic Year					
			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2		
			課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
學院共同課程（由學院開課） College Common Courses		選修 Elective	開關變換器的基本設計與分析微學分/1/1Basic design and analysis of switching converters/1/1、機器人競賽與挑戰微學分/1/1Robotics competition and challenge/1/1、網路與排隊理論/3/3Data Networks and Queueing Theory/3/3、微波工程與應用/3/3Microwave Engineering and Applications/3/3、低碳能源技術導論微學分/1/1Introduction on Technologies of Low Carbon Energy/1/1、再生能源導論微學分/1/1Introduction to Renewable Energy/1/1											
學院跨領域課程（由學院開課） College Interdisciplinary Courses		選修 Elective	區塊鏈技術與應用/3/3Blockchain Technology and Application/3/3、區塊鏈智能合約實務/3/3Block Chain Smart Contract Practice/3/3											
	必修 Required	應修學分數 10 學分 Credits Needed10	專題研討(一) Seminar (1)	2	2	專題研討(二) Seminar (2)	2	2	專題研討(三) Seminar (3)	2	2	專題研討(四) Seminar (4)	2	2
												論文 Thesis	6	6

系 專業課程 Departmental Professional Courses	選修 Elective	應修學分數 24 學分 Credits needed24	生物計算/3/3 Biomedical Algorithms/3/3 高等計算機網路/3/3 Advanced Computer Network/3/3 高等演算法/3/3 Advanced Algorithms Analysis/3/3 數位影像處理/3/3 Digital Image Processing/3/3 資料探勘/3/3 Data Mining/3/3 高等物件導向程式設計/3/3 Advanced Object-Oriented Programming/3/3 網路協定工程/3/3 Network Protocol Engineering/3/3 高等 Linux 系統整合應用/3/3 Advanced Integrated Application of Linux System 3/3 基因演算法/3/3 Genetic Algorithm/3/3	電腦視覺/3/3 Computer Vision/3/3 圖型辨識/3/3 Pattern Recognition/3/3 高等人工智慧/3/3 Advanced Artificial Intelligence/3/3 網路安全/3/3 Network Security/3/3 密碼學/3/3 Cryptography 巨量資料分析/3/3 Big Data Analysis/3/3 智慧計算/3/3 Intelligent Computation/3/3 高等資料庫/3/3 Advanced Database/3/3 雲端計算與服務/3/3 Cloud Computing and Services/3/3	圖形理論/3/3 Graphic Theory/3/3 類神經網路/3/3 Neural Networks/3/3 計算機圖學/3/3 Computer Graphics/3/3 生物資訊學/3/3 Introduction To Computational Biology/3/3 自然語言處理/3/3 Natural Language Processing /3/3 區塊鏈技術與應用/3/3 Blockchain Technology and Application/3/3 量子電腦程式設計/3/3 Programming Design of Quantum Computers/3/3 量子電腦進階程式設計/3/3 Advanced Quantum Programming of Quantum Computers/3/3 網路科學與社會計算/3/3 Network Science and Social Computing/3/3	機器學習/3/3 Machine Learning/3/3 深度學習/3/3 Deep Learning/3/3 強化學習/3/3 Reinforcement Learning/3/3 整合學習/3/3 Ensemble Learning/3/3 機率學習/3/3 Probabilistic Learning/3/3 資料科學/3/3/3/3 Data Science 資料科學專題/3/3 Seminar on Data Science/3/3

【電機與資訊學院 光電工程研究所】碩士課程結構規劃表

光電工程研究所　碩士班　　113 學年度入學課程結構規劃表
Curriculum Structure Plan for the 2024 Academic Year in Institute of Photonics Engineering

課程類別 Course Category			一年級 1st Academic Year						二年級 2nd Academic Year					
			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2		
			課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
學院共同課程（由學院開課） College Common Courses		選修 Elective	開關變換器的基本設計與分析微學分/1/1 Basic Design and Analysis of Switching Converters/1/1 機器人競賽與挑戰微學分/1/1 Robotics Competition and Challenge/1/1 網路與排隊理論/3/3 Data Networks and Queuing Theory/3/3 微波工程與應用/3/3 Microwave Engineering and Applications/3/3 低碳能源技術導論微學分/1/1 Introduction on Technologies of Low Carbon Energy/1/1 再生能源導論微學分/1/1 Introduction to Renewable Energy/1/1											
學院跨領域課程（由學院開課） College Interdisciplinary Courses		選修 Elective	區塊鏈技術與應用/3/3 Block Chain Technology and Application/3/3 區塊鏈智能合約實務/3/3 Block Chain Smart Contract Practice/3/3											
專業課程 Professional Course	必修 Required	應修學分數 10 學分 10 Credits Needed	專題研討(一) Seminar (I)	1	2	專題研討(二) Seminar (II)	1	2	專題研討(三) Seminar (III)	1	2	專題研討(四) Seminar (IV)	1	2
												論文 Thesis	6	6

	選修 Elective	應修學分數 28 學分 28 Credits Needed	光電工程/3/3 Optoelectronic Engineering /3/3 基礎光學/3/3 Fundamentals of Optics /3/3 天線工程/3/3 Antenna Engineering/3/3 數位信號處理/3/3 Digital Signal Processing/3/3 微機電系統工程/3/3 Micro-Electro-Mechanical Systems/3/3 半導體元件物理與技術/3/3 Semiconductor Devices Physics and Technology/3/3 太陽能電池物理與技術/3/3 Physics and Technology of Solar Cells/3/3 光電實驗/3/3 Optoelectronics Experiments/3/3 光電半導體元件專論/3/3 Special Topics on Opto-Electronic Semiconductor Devices/3/3 平面顯示器原理/3/3 Principles of Plane Displays/3/3 光電電磁學/3/3 Electromagnetic Principles of Optoelectronics/3/3 微機電技術專論/3/3 Special Topics on Micro-Electro-Mechanical Systems3/3 天線與傳播專論/3/3 Special Topics on Antennas and Propagation/3/3 微波工程/3/3 Microwave Engineering/3/3 表面與接面分析/3/3 Surface and Interface Analysis/3/3 薄膜光學設計與實作/3/3 Design and Implementation of Thin Film Optics/3/3 奈米半導體元件製程/3/3	類神經網路應用/3/3 Neural Networks with Applications/3/3 射頻通訊電路設計/3/3 Design of RF Communication/3/3 微波電路設計/3/3 Microwave Circuit Design/3/3 實用英文/3/3 Practical English/3/3 傅立葉光學/3/3 Fourier Optics/3/3 高等深度學習專論/3/3 Advanced Topics on Deep Learning/3/3 光機電系統專論/3/3 Topics of Optomechatronics system/3/3 半導體製程專論/3/3 Special Topics on Semiconductor Process/3/3 光電與通訊應用工程/3/3 Applications of Photonics and Communications/3/3 太陽能電池專論/3/3 Special Topics on Solar Cells/3/3 高等光機電檢測系統專論/3/3 Advanced Topics on Automated Optical Inspection/3/3 光譜檢測專論/3/3 Topics of Spectroscopy/3/3 紅外線系統專論/3/3 Special Topics on Infrared System/3/3 太陽能電池模組專論/3/3 Special Topics on Modules of Solar Cells/3/3

			Manufacture of Nano Semiconductor Devices/3/3 光電元件專論/3/3 Special Topics on Opto-Electronic Devices/3/3 科技論文研讀/3/3 Technical Essay Study/3/3 光電元件與感測技術/3/3 Optoelectronic Devices and Sensing Technology/3/3 光電子學/3/3 Optoelectronics/3/3 雷射工程/3/3 Laser Engineering/3/3 微帶天線理論與設計/3/3 Design and Theory of Microstrip Antenna/3/3 圖訊識別/3/3 Pattern Recognition/3/3 微感測元件/3/3 Microsensors/3/3 平面天線設計實務/3/3 Design of Planar Antenna/3/3 影像顯示技術/3/3 Display Technology/3/3 科技英文/3/3 Technical English/3/3 紅外線工程/3/3 Infrared Engineering/3/3 光電材料專論/3/3 Special Topics on Opto-Electronic Materials/3/3 色彩工程學/3/3 Color Engineering/3/3 數位光學/3/3 Digital Optics/3/3 機器深度學習/3/3 Machine-Based Deep Learning/3/3 小波轉換與應用/3/3 Wavelet Transform and Its Applications/3/3	

			生醫光電導論/3/3 Introduction to Biophotonics/3/3 紅外線感測器專論/3/3 Special Topics on Infrared Sensors/3/3 表面科學專論/3/3 Topics of Surface Science/3/3 第二、三代半導體/3/3 Second and Third Generation Semiconductors/3/3 實用英文/3/3 Practical English/3/3 光感測原理與應用/3/3 Optical Sensing Principles and Applications/3/3 物理光學/3/3 Physical Optics/3/3 光學工程/3/3 Optical Engineering/3/3	

【電機與資訊學院 電腦與通訊工程系】碩士課程結構規劃表

電腦與通訊工程系　碩士班　113 學年度入學課程結構規劃表

2024 Curricula for the Master's Program in Department of Computer and Communication Engineering　1140319

課程類別 Category of Course			1st Academic Year		二年級 2nd Academic Year	
			第一學期 Semester 1	第二學期 Semester 2	第一學期 Semester 1	第二學期 Semester 2
			課程名稱 Course name/學分數 /Credits/時數 Hours	課程名稱 Course name/學分數 /Credits/時數 Hours	課程名稱 Course name/學分數 /Credits/時數 Hours	課程名稱 Course name/學分數 /Credits/時數 Hours
學院共同課程（由學院開課）**College Common Courses**		選修 **Elective**	開關變換器的基本設計與分析微學分/1/1 Basic design and analysis of switching converters/1/1 機器人競賽與挑戰微學分/1/1 Robotics competition and challenge/1/1 網路與排隊理論 Data Networks and Queuing Theory /3/3 微波工程與應用/3/3 Microwave Engineering and Applications/3/3 低碳能源技術導論微學分/1/1 Introduction on Technologies of Low Carbon Energy/1/1 再生能源導論微學分/1/1 Introduction to Renewable Energy/1/1			
學院跨領域課程（由學院開課）**College Interdisciplinary Courses**		選修 **Elective**	區塊鏈技術與應用 Blockchain Technology and Application /3/3 區塊鏈智能合約實務 Block Chain Smart Contract Pract ice /3/3			
專業課程 **Departmental Professional Courses**	必修 **Required**	須修畢 5 門課，共 **14** 學分 **Credits needed 14**	專題演講(一)Special Seminars (Ⅰ)/2/2 電腦與通訊專題討論(一)Seminar on Computer and Communication Systems (I)/2/2	專題演講(二)Special Seminars (Ⅱ)/2/2 電腦與通訊專題討論(二)Seminar on Computer and Communication Systems (Ⅱ)/2/2 論文 Thesis/6	論文 Thesis/6	論文 Thesis/6
	選修 **Elective**	共同選修		產業實務暑期實習 Industry Practice Summer Internship/2/0		
		資訊領域	軟體專案管理 Software Project Management /3/3 人工智慧 Artificial Intelligence /3/3 計算智慧 Computational Intelligence /3/3	行動裝置程式設計實習 Design Internship Program for Mobile Devices /2/3 機器學習 Machine Learning /3/3 大型語言模型實務 Large Language Model Practices /3/3	物聯網科技服務創新 Service Innovation Based on Internet of Things /3/3 高等計算機結構 Advanced Computer Architecture /3/3	即時作業系統 Real-time operating system /3/3 軟體品質管理 Software Quality Management /3/3
		通訊領域	無線通訊元件設計實習 Wireless Devices Design Laboratory /2/3 隨機過程 Random Processes /3/3 數位通訊理論 Digital Communication Theory /3/3 個人與行動通訊系統/3/3	通訊系統設計實習 Communication Systems Laboratory /2/3 行動邊緣計算 Mobile Edge Computing /3/3 5G 行動通訊網路 5G Mobile Communication Networks /3/3	高等信號處理專論 Advanced Signal Processing /3/3 統計訊號處理 Statistical Signal Processing /3/3	展頻通訊 Spread-Spectrum Communications /3/3 無線通訊系統 Wireless Communication Systems /3/3

			Personal and Mobile Communications Systems 數位訊號處理器實習 Digital Signal Processor Laboratory /2/3 天線設計實務 Practical Antenna Design /3/3			
		多媒體與晶片設計領域	數位影像處理 Digital Image Processing/3/3 數位語音處理 Digital Speech Processing /3/3 彩色視訊處理 Color Video Signal Processing /3/3 感測資料融合 Sensor Data Fusion /3/3	電腦圖學 Computer Graphics/3/3 多媒體設計實習 Multimedia Design Practice/2/3 生醫訊號處理 Biomedical Signal Processing /3/3 系統晶片設計實習 System on Chip Design Laboratory /2/3 超大型積體電路設計實習/2/3 VLSI Design Laboratory		電腦視覺 Computer Vision/3/3 多媒體安全 Multimedia Security/3/3
		資安領域領域	網路安全與資安監控 Network Security and Surveillance/3/3 寬頻網路 Broad-band Networks/3/3	網路與資安攻防實習 Networks Laboratory with Information Security Attack and Defense Practice/2/3 智慧感測網路 Intelligent Sensor Networks/3/3	網路與排隊理論 Data Networks and Queuing Theory/3/3	數據網路分析 Analysis of Data Networks/3/3

【電機與資訊學院 半導體工程系】碩士課程結構規劃表

半導體工程系　碩士班　113 學年度入學課程結構規劃表

2024 Curricula for the Master's Program in Department of Microelectronics Engineering

課程類別 Course Category			一年級 1st Academic Year						二年級 2nd Academic Year					
			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2		
			課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
學院共同課程 (由學院開課) College Common Courses	選修 Elective		開關變換器的基本設計與分析微學分/1/1 Basic design and analysis of switching converters/1/1 機器人競賽與挑戰微學分/1/1 Robotics competition and challenge/1/1 網路與排隊理論/3/3 Data Networks and Queuing Theory/3/3 微波工程與應用/3/3 Microwave Engineering and Applications/3/3 低碳能源產業與技術微學分/1/1 Introduction on Technologies of Low Carbon Energy/1/1 再生能源導論微學分/1/1 Introduction to Renewable Energy/1/1											
學院跨領域課程 (由學院開課) College Interdisciplinary Courses	選修 Elective		區塊鏈技術與應用/3/3 Blockchain Technology and Application/3/3 區塊鏈智能合約實務/3/3 Block Chain Smart Contract Practice/3/3											
專業課程 Departmental Professional Courses	必修 Required	應修課程數 5 門/ 應修學分數 18 學分 Credits needed18	微電子工程科技 Microelectronics Engineering and Technology	3	3	工程科技專論 Specialization on Science and Technology	3	3	論文 Thesis	6	6	論文 Thesis	6	6
			專題研究(一) Seminar(I)	3	3	專題研究(二) Seminar(II)	3	3						
	選修 Elective	應修學分數至少 16 學分 Credits needed16	奈米材料/3/3 Nanomaterials/3/3 高等微機電製程/3/3 Advanced MEMS Fabrication Process/3/3 電源系統設計/3/3 Design of Power Supply System/3/3 高等半導體元件/3/3 Semiconductor Devices/3/3 發光二極體專論/3/3 Advanced Topics in Light-Emitting Diodes/3/3 高等積體電路製程/3/3 Advanced VLSI Technology/3/3 水下高等訊號處理/3/3 Advanced Underwater Signal Processing/3/3 FPGA 設計與應用/3/3 FPGA Design and Application/3/3 高等類比積體電路設計/3/3 Design of Advanced Analog Integrated Circuits/3/3			光電工程/3/3 Optoelectronic Engineering/3/3 水下通訊/3/3 Underwater Telecommunication/3/3 太陽能工程/3/3 Solar Engineering/3/3 高等 MEMS 設計/3/3 Advanced Design of MEMS/3/3 半導體感測元件/3/3 Semiconductor Sensing Devices/3/3 數位積體電路設計/3/3 Digital Integrated Circuit Design/3/3 系統晶片應用實務/3/3 Applications of System-on-Chip/3/3 光電元件量測與分析/3/3 Measurement and Analysis of Optoelectronic Devices3/3 混合式訊號積體電路設計/3/3 Mixed-Signal Integrated Circuit Design/3/3			學期實習-產業實習(二)/3/3 Industry Internship (Semester II)/3/3					

			微波單晶積體電路設計(一) /3/3 Monolithic Microwave Integrated Circuits(I) /3/3 高等發光二極體製造技術及應用/3/3 Manufacturing Technology and Application of Advanced Light-Emitting Diodes/3/3 感測應用與自動化生產/3/3 Sensing Application and Automated Production 高等電源管理晶片設計與實習/3/3 Advanced Power Management IC Design and Practice/3/3 VLSI 元件物理/3/3 VLSI Devices Physics/3/3	微波單晶積體電路設計(二)/3/3 Monolithic Microwave Integrated Circuits(II) /3/3 可程式邏輯控制與生產自動化系統設計/3/3 Design of PLC and Applications in Automated Production/3/3 射頻與微波電路設計/3/3 RF and Microwave Circuit Design/3/3 學期實習-產業實習(一)/3/3 Industry Internship (Semester I)/3/3 半導體元件設計與模擬/3/3 Semiconductor Device Design and Simulation/3/3

（四） 學分計算（抵免）方式

雙聯學制學生應遵守由國立高雄科技大學與辛辛那提大學針對雙聯學制課程而專門設計的學位之要求。雙聯學制的學生於境外學校修讀及格之科目及學分，應於原學校規定修業年限內申請抵免。

碩士班的學生（最初在 NKUST 的 CIMEE、CEECS 和 CE 註冊）將在 CIMEE、CEECS 和 CE 完成第一年的學習，以獲得 NKUST 的 15 個或更多學分（5 門科目中每門都達到 B 級或以上）。然後，學生註冊 UC 課程 15 個或更多學分。如果學生從 CIMEE、CEECS、CE 和 CEAS 獲得的總認可學分不少於 30 個學分，將被授予 UC 的工程碩士學位。作為 CEAS 的註冊學生，必須完成 CEAS 工程碩士學位的至少 15 個學分。一旦這些學生滿足 CIMEE、CEECS 和 CE 的學位授予要求，如果他們在 CEAS 學習的科目可以學分轉回 CIMEE、CEECS 和 CE，他們也可以被授予 CIMEE、CEECS 和 CE 的理學碩士學位。

（五） 修讀期限、學位授予

雙聯學制的學生在修讀期限內修習及格之科目及學分，符合境外學校雙聯學制之規定，授予境外學校工程碩士學位。而雙聯學制的學生於境外學校所修習及格之科目及學分，應於原學校規定修業年限內申請抵免；經核准抵免後，如符合原學校各系(所)畢業資格規定者，授予原學校學位。

UC 大學工程碩士學位要求至少修讀 30 個學分（包括下文所述的畢業設計專案）；無需提交學位論文。同樣，本校 CIMEE、CEECS、CE 理學碩士學位要求至少修讀 31 個學分；需要提交學位論文。這兩個計畫旨在為學生提供其感興趣領域的先進知識和經驗，並提供涵蓋各自學科最新發展的課程。

畢業設計專案 (Capstone Project)－工程碩士課程的關鍵組成部分是畢業設計項目，該專案為三學分課程。畢業設計專案可以是書面論文、與導師共同完成的項目，或學生專業領域的課程實務培訓(實習)。此計畫可在大學（辛辛那提大學或高雄科技大學）、企業、產業或政府機構進行。畢業設計專案提供了一種機制，可以展示學生對知識的綜合運用以及將概念應用於特定問題的能力。工作場所的教師或專業人員將監督畢業設計專案。畢業設計專案將包括一份書面報告和一份簡報。

要獲得 CEAS 的碩士學位，CIMEE、CEECS 和 CE 的理學碩士學位課程中最多 15 個學分可以轉為 CEAS 的工程碩士學位。在 CIMEE、CEECS 和 CE 完成的論文學分不計入 CEAS 的工程碩士學位，只計入課程學分。大多數並行註冊計畫的學生將從 CIMEE、CEECS 和 CE 選修 5 門課程（15 個學分），並從 CEAS 選修 5 門課程（15 個學分）（包括畢業設計專案）（3 個學分）。為了將 CIMEE、CEECS 和 CE 的學分計入 CEAS 的工程碩士學位，最初在 CIMEE、CEECS 和 CE 註冊的學生必須在具有相應 CEAS 對應課程的科目中取得 B 級或以上成績。這些科目將由兩所大學商定。同樣，從 CEAS 獲得的 B 級或以上成績的最多 15 個學分可計入 CIMEE、CEECS 和 CE 的 MS 畢業要求。

（六） 碩、博士論文作業方式

畢業設計專案 (Capstone Project)－工程碩士課程的關鍵組成部分是畢業設計項目，該專案為三學分課程。畢業設計專案可以是書面論文、與導師共同完成的項目，或學生專業領域的課程實務培訓(實習)。此計畫可在大學（辛辛那提大學或高雄科技大學）、企業、產業或政府機構進行。畢業設計專案提供了一種機制，可以展示學生對知識的綜合運用以及將概念應用於特定問題的能力。工作場所的教師或專業人員將監督畢業設計專案。畢業設計專案將包括一份書面報告和一份簡報。

（七） 其他事項

四、檢附文件

國立高雄科技大學智慧機電學院、電機與資訊學院、工程學院與 University of Cincinnati, College of Engineering & Applied Science 合作辦理雙聯學制協議書。