國立彰化師範大學
機電工程學系碩士在職專班畢業條件表暨課程架構表
(110學年度入學學生適用)

National Changhua University of Education

Graduation Requirements and Course Structure for Master's Program of Mechatronics Engineering

(Applicable for students in 110 academic year)

列印日期(Print Date:2025/11/10)

一.系必修課程

I.Department Required Courses

課程名稱 Course Name	學分/學時 Credit(s)/ Hour(s)	年級 Grade	學期 Semester
書報討論(一) Seminar I	2/2	1	1
書報討論(二) Seminar II	2/2	1	2
機電專題(一) Mechatronics Project I	2/2	1	2
機電專題(二) Mechatronics Project II	2/2	2	1
論文 Thesis	0/0	2	2
論文指導 Thesis Supervision	4/0	2	2
論文寫作 Thesis Writing	2/2	2	2

二.系選修課程

II.Department Elective Courses

課程名稱 Course Name	學分/學時 Credit(s)/ Hour(s)
人工智慧物聯網系統設計 AIoT	3/3
人工智慧感測與控制技術 Artificial Intelligence Sensing and Control	3/3
互聯網系統設計 Internet System Design	3/3
光電半導體元件 Optoelectronic Semiconductor Devices	3/3
光電半導體材料與物理 Optoelectronic Semiconductor Materials and Physics	3/3
光學微影與蝕刻 Photolithography and Etching	3/3
奈米結構製程 Nanostructure Fabrication	3/3
科技英文 English for Science and Technology	3/3

微波積體電路設計與應用 Microwave Integrated Circuit Design and Applications	3/3
微電子材料與製程 Microelectronic Matericals and Processes	3/3
微機電技術與實務 MEMS technology and practice	3/3
微機電製程 MEMS Processes	3/3
精密機械與光電量測 Precision Machine Tool and Photoelectric Measurement	3/3
機電產業實務與管理 Practice and Management of Mechatronic Industry	3/3
應用電子學 Applied Electronics	3/3
薄膜製程與應用 The flim processes and appilications	3/3
PCI 介面電路設計 PCI Interface Circuitry Design	3/3
工程設計與系統分析 Engineering Design and System Analysis	3/3
光機系統設計 Opto-mechanical Systems Design	3/3
有限元素法 Finite Element Method	3/3
系統設計與動態分析 System Design and Dynamics	3/3
奈米機電系統 Nano-Electro-Mechanical Systems	3/3
氣體潤滑理論與應用 Air Lubrication Theory and Application	3/3
現代控制工程 Modern Control Engineering	3/3
結構動態與控制工程 Dynamics and Control of Structures	3/3
結構設計與振動分析 Structural Design and Vibrational Analysis	3/3
雷射加工系統設計 Design of the Laser Processing Systems	3/3
電子儀器與量測 Electronic Instrument and Measurement	3/3
影像處理與應用 Image Processing and Application	3/3
數值分析 Numerical Analysis	3/3
半導體產業與技術 Semiconductor Industry and Technology	3/3
半導體製程設備 Equipments of Semiconductor Processes	3/3
平面顯示器技術 Flat Panel Display Technology	3/3

光電系統設計與應用 Application and Design of Optical Electronic System	3/3
光學系統設計與應用 Optical System Design and Applications	3/3
光機電技術與應用 Opto-Electromachanical Technologies and Applications	3/3
微機電系統設計與應用 Microelectromechanical System Design and Applications	3/3
電子封裝 Electronic Encapsulation	3/3
電子電路實務 Electronic Circuit Practice	3/3
機電整合實務 Practice on Mechatronics Integration	3/3
類比積體電路設計與應用 Analog Integrated Circuit Design and Applications	3/3
顯示製程與技術 Display Processes and Technologies	3/3
CMOS微機電系統設計與應用 Design and Application of CMOS MEMS	3/3
VHDL 硬體描述語言 VHDL Hardware Description Language	3/3
工程統計與實驗設計 Engineering Statistics and Experimental Design	3/3
中國醫學工桯	3/3
太陽電池原理與製程 Principle and Process of Solar Cells	3/3
半導體元件 Semiconductor Devices	3/3
自動控制工程 Automatic Control Engineering	3/3
高科技產業與知識管理 High-Tech Industry and Knowledge Management	3/3
智慧型控制系統設計與應用 Intelligent Control System Design and Applications	3/3
感測與量測 Sensor and Measurement	3/3
感測器與介面電路設計與應用 Design and Application of Sensors Interface Circuits	3/3
精密運動控制 Precise Motion Control	3/3
影像處理技術 Image Processing Technology	3/3
機電系統整合設計 Mechatronics System Integration Design	3/3
機電動態系統 Mechatronics Dynamic Systems	3/3
機電產品可靠度工程分析 Reliability analysis for mechatronics products	3/3

三.先修科目

III.Prerequisite Courses

先修課程 Prerequisite Course	後修課程 Subsequent Course

四.畢業條件

IV.Graduation Requirements

1.本班別最低畢業學分為32學分，包含必修14學分、選修18學分，含論文指導4學分，且須通過學位考試。 2.凡選修本專班開設科目（不限學期），一律承認為本系畢業學分。 3.修課經指導教授同意可選修外系研究所開設科目（不限學期），至多6 學分（選課前送教授同意表至系辦備查）。 4.學生除須修滿應修學分外，同時須符合「機電工程學系碩士學位在職進修專班研究生學位考試程序作業辦法」規定，方具備畢業資格。 5.研究生應於申請學位考試前修習通過於「臺灣學術倫理教育資源中心」(https://ethics.nctu.edu.tw/)網路教學平台之「學術研究倫理教育」課程等相關規定。
1.The minimum graduation requirement for this program is 32 credits, including 14 credits of required courses, 18 credits of elective courses, and 4 credits for thesis supervision. Students must also pass the degree examination. 2.Any courses taken from this specialized program (regardless of semester) will be recognized as part of the department's graduation credits. 3.With the approval of the advisor, students may take up to 6 credits of courses offered by other departments (regardless of semester), provided that the consent form is submitted to the department office for record before enrolling in the courses. 4.In addition to completing the required credits, students must also comply with the " Procedures for the Master's Degree Examination of the Executive Master's Program in Mechatronic Engineering" to qualify for graduation. 5.Graduate students must complete and pass the "Academic Research Ethics Education" course offered by the Taiwan Academic Ethics Education Resource Center (https://ethics.nctu.edu.tw/) on its online teaching platform before applying for the degree examination, among other related requirements.