

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
(109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 109 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 Materials 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 film processes and applications	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-Electromechanical 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
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
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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.