國立勤益科技大學114學年度進修部碩士在職專班機械工程系學分計畫表

National Chin-Yi University of Technology Continuing Education Division
Curriculum for 2025 In-Service Master Program Department of Mechanical Engineering

113.11.12 113學年度第1學期第2次所課程會議通過
113.11.13 113學年度第1學期第2次所務會議通過
113.11.19 113學年度第1學期第1次院課程會議審議通過
113.12.05 校課程委員會議及113.12.24 臨時教務會議審議通過

科目	Courses	上學期First Semester			下學期Second Semester		
		學分 Credit	正課 Lecture	實習 Internship	學分 Credit	正課 Lecture	實習 Internship
共同必修科目(10學分)General Required Courses(10credits hours)							
第一學年First Year							
書報討論（一）	Seminar (I)				2	2	0
第二學年Second Year							
書報討論（二）	Seminar (II)	2	2	0			
論文	Thesis	3	3	0			
論文	Thesis				3	3	0
專業選修科目Department Electives Courses							
第一學年First Year							
科目	Courses	學分Credit		正課Lecture		實習 Internship	
精密機械設計	Precise Mechanical Design	3		3		0	
進階熱處理	Advanced in Heat Transfer System	3		3		0	
可靠度工程理論與應用	Introduction to Reliability Engineering	3		3		0	
微機電系統	Microelectromechanical Systems (MEMS)	3		3		0	
工程數值分析	Engineering Numerical Analysis	3		3		0	
有限元素法	Finite Element Method	3		3		0	
切削特論	Special Topics on Metal Cutting	3		3		0	
最佳化方法與應用	Optimization and Applications	3		3		0	
光學	Optics	3		3		0	
太陽能源工程	Introduction of Solar Energy Engineering	3		3		0	
壓電元件原理與應用	Principles and Applications of Piezoelectric Devices	3		3		0	
機器視覺	Machine Vision	3		3		0	
電腦輔助工程分析	Computer Aided Engineering Analysis	3		3		0	
奈米材料特論	Special Topics on Nanomaterials	3		3		0	
緊固邊界特論	Special Topics on Fastening Boundaries	3		3		0	
產品開發實務	Product Development Practice	3		3		0	
工業4.0特論	Special Topics on Industry 4.0	3		3		0	
非線性控制	Nonlinear Control	3		3		0	
智慧製造感測聯網與數據處理分析技術	The internet of sensors and data processing analysis technology applied in smart manufacturing	3		3		0	
機構設計	Mechanism Design	3		3		0	
高分子加工	Polymer Processing	3		3		0	
高等工程熱力學	Advanced Engineering Thermodynamics	3		3		0	
創新發明與專利佈局	Innovative Invention and Patent Layout	3		3		0	
複合材料特論	Special Topics on Composite Materials	3		3		0	
機器學習原理與應用	Principles and Applications of Machine Learning	3		3		0	
自動控制原理與應用	Principle and application for automatic controls	3		3		0	
半導體先進封裝技術簡介	Semiconductor Advanced Packaging Introduction	3		3		0	
第二學年Second Year							
科目	Courses	學分Credit		正課Lecture		實習 Internship	
科技英文	English for Science and Technology	3		3		0	
精密加工	Precision Machining	3		3		0	
防蝕工程	Anti-corrosion Engineering	3		3		0	
電子元件與應用電路	Electronic Elements and Applied Circuits	3		3		0	
感測器原理與應用	Sensor Principle and Application	3		3		0	
微系統製造技術	Microsystem Manufacturing Technology	3		3		0	
金屬成形特論	Special Topics on Metal Forming	3		3		0	
生醫工程	Introduction to Biomedical Engineering	3		3		0	
動態系統分析與模擬	Analysis and Simulation of Dynamic Systems	3		3		0	
多軸加工原理與應用	5-Axis Machine Tool Principle and Application	3		3		0	
實驗設計	Experimental Design	3		3		0	
精密機械量測	Precision Mechanical Measurement	3		3		0	
科技論文寫作	Technical Thesis Writing	3		3		0	
應用機械動力學	Applied Machinery Dynamics	3		3		0	
氣壓控制特論	Special Topics on Pneumatics Control	3		3		0	
工程振動學	Mechanical Vibrations	3		3		0	
自動化光學檢測	Automatic Optical Inspection	3		3		0	

深度學習	Deep Learning	3	3	0
工業德文	Engineering German	3	3	0
自動化生產系統	Automatic Production Systems	3	3	0

備註Note:

一、 畢業至少應修滿34學分【必修10學分(含論文6學分)，專業選修至少24學分】。
Before graduation, each student should complete at least 34 credits including 10 required credits (6 credits for Thesis) and 24 elective credits (at least 24 credits should be completed from professional elective courses).

二、 研究生至少需於本系所教師開課科目中修畢24學分(不含論文及書報討論)。因研究需要，經指導教授及系主任同意，得選修他所開授之科目計入此24學分中，但最多以6學分為限，語文類課程(科技日文、科技英文、科技論文寫作、工業德文)最多採計3學分。
Graduate students have to complete at least 24 credits offered by the teachers in the department (not including Degree Thesis and Seminar courses). For research needs, ones can take courses offered by other departments after the approvals of supervisor and director of department, which are counted in 24 graduate credits where at most 6 credits is adopted, in addition, language courses (like Technical Japanese, Technical English, Technical Thesis Writing and Engineering German) at most 3 credits are adopted.

三、 研究生必須通過碩士班論文口試方准予畢業。畢業時，依法授予工學碩士學位。
Graduate students have to pass the oral defense for graduation. Once graduation, ones are awarded Master Degrees of Science in Engineering.

四、 學生應於申請學位考試前至「教育部臺灣學術倫理教育資源中心」網路平臺完成學術研究倫理教育課程，至少6小時課程。
Students need to complete the academic research ethics education course for at least 6 hours before the final defence applicaiton.

五、 課程名稱前有標示「△」符號者，為「程式設計課程」。
Courses with a “△” refers to an application design course.

六、 課程名稱前有標示「●」符號者，為「職能專業課程」。
Courses with a “●” refer to a professional competence course.

七、 課程名稱前有標示「AI」符號者，為「人工智慧相關課程」。
Courses with an “AI” refer to an artificial intelligence related course.

八、 為因應法規變更、評鑑建議或政府計畫規定等外在因素，本系保有調整學分計畫之權利。若有修訂，將於學期開始前公告，並明確說明修訂內容、影響範圍及相關配套措施，以保障學生權益。
The department reserves the right to adjust the curriculum in response to external factors such as changes in regulations, suggestions of evaluation and accreditation, or government program regulations. If there are any revisions, will be announced before the start of the semester, and the revised content, scope of impact, and related supporting measures will be clearly stated to protect the rights and interests of students.