

國立勤益科技大學 115 學年度進修部碩士在職專班化工與材料工程系
學分計畫表

National Chin-Yi University of Technology Continuing Education Division Curriculum for 2026 In-Service
Master Program Department of Chemical and Materials Engineering

114.10.01 系課程會議審議通過

114.10.16 系務會議審議通過

114.11.20 114 學年度第 1 學期第 1 次院課程會議審議通過

114.12.04 校課程委員會議及 114.12.23 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 | | | | | | | | |
| 專題討論 (一) | Seminar (I) | 1 | 2 | 0 | | | | |
| 專題討論 (二) | Seminar (II) | | | | 1 | 2 | 0 | |
| 第二學年Second Year | | | | | | | | |
| 專題討論 (三) | Seminar (III) | 1 | 2 | 0 | | | | |
| 論文 (一) | Thesis (I) | 3 | 3 | 0 | | | | |
| 論文 (二) | Thesis (II) | | | | 3 | 3 | 0 | |
| 專題討論 (四) | Seminar (IV) | | | | 1 | 2 | 0 | |
| 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 | |
| 專業選修科目Department Electives Courses | | | | | | | | |
| 第一學年First Year | | | | | | | | |
| 化工與材料科技組Chemical and Materials Technology | | | | | | | | |
| 高等材料科學 | Advanced Materials Science | 3 | 3 | 0 | | | | |
| 高等高分子物理 | Advanced Polymer Physics | 3 | 3 | 0 | | | | |
| 高等電化學 | Advanced Electrochemistry | 3 | 3 | 0 | | | | |
| 電化學技術與應用 | Electrochemical Techniques and Applications | 3 | 3 | 0 | | | | |
| 高等無機化學 | Advanced Inorganic Chemistry | 3 | 3 | 0 | | | | |
| 高等流體力學 | Advanced Fluid Mechanics | 3 | 3 | 0 | | | | |
| 高等熱傳 | Advanced Heat Transfer | 3 | 3 | 0 | | | | |
| 高等化工熱力學 | Advanced Chemical Engineering Thermodynamics | 3 | 3 | 0 | | | | |
| 程序控制特論 | Special Topics in Process Control | 3 | 3 | 0 | | | | |
| 薄膜科技 | Membrane Technology | 3 | 3 | 0 | | | | |
| 影像顯示科技導論 | Introduction of Display Science and Technology | 3 | 3 | 0 | | | | |
| 材料科學特論 | Special Topics of Material Science | 3 | 3 | 0 | | | | |
| 儀器分析特論 | Special Topics in Instrumental Analysis | 3 | 3 | 0 | | | | |
| 高分子定性與分析 | Polymer Characterization and Analysis | | | | 3 | 3 | 0 | |
| 高等有機化學 | Advanced Organic Chemistry | | | | 3 | 3 | 0 | |
| 材料結構與性質 | Structure and Properties of Materials | | | | 3 | 3 | 0 | |
| 奈米材料與化工技術 | Nanomaterials and Chemical Technology | | | | 3 | 3 | 0 | |
| 複合材料特論 | Special Topics in Composite Materials | | | | 3 | 3 | 0 | |
| 有機反應 | Reactions of Organic Chemistry | | | | 3 | 3 | 0 | |
| 物理化學水處理 | Physiochemical Treatment | | | | 3 | 3 | 0 | |
| 高等化工動力學 | Advanced Chemical Kinetics | | | | 3 | 3 | 0 | |
| 高等質傳 | Advanced Mass Transfer | | | | 3 | 3 | 0 | |
| 光電與奈米材料特論 | Special Topics of Optoelectronic and Nano Materials | | | | 3 | 3 | 0 | |
| 化妝品材料 | Cosmetic Materials | | | | 3 | 3 | 0 | |
| 生醫材料特論 | Special Topics in Biomedical Materials | | | | 3 | 3 | 0 | |
| 導電性高分子 | Conductive Polymer | | | | 3 | 3 | 0 | |
| 奈米科技特論 | Special Topics in Nano Sciences | | | | 3 | 3 | 0 | |
| 實驗設計與分析 | Design and Analysis of Experiments | | | | 3 | 3 | 0 | |
| 第二學年Second Year | | | | | | | | |
| 環境與安全衛生組Environmental and Safety Hygiene | | | | | | | | |
| 職業安全衛生法規 | Occupational Safety and Health Regulations | 3 | 3 | 0 | | | | |
| 風險評估 | Risk Assessment | 3 | 3 | 0 | | | | |
| 製程安全評估 | Process Safety Assessment | 3 | 3 | 0 | | | | |
| 安全工程 | Safety Engineering | 3 | 3 | 0 | | | | |
| 作業環境控制工程 | Engineering Control of Workplace Hazards | 3 | 3 | 0 | | | | |
| 工業衛生 | Industrial Hygiene | 3 | 3 | 0 | | | | |
| 機電防護 | Mechanical and Electrical Protection | 3 | 3 | 0 | | | | |
| 水處理工程與設計 | Water Treatment Engineering and Design | 3 | 3 | 0 | | | | |
| 工業安全 | Industry Safety | 3 | 3 | 0 | | | | |
| 火災調查與鑑識分析 | Fire Investigation and Forensic Science | 3 | 3 | 0 | | | | |
| 危險物品管理特論 | Special Topics in Hazardous Substance Management | | | | 3 | 3 | 0 | |
| 火災電腦模擬程式技術之應用 | Application of Fire Dynamic Simulator | | | | 3 | 3 | 0 | |
| 消防安全評估與風險分析 | Fire Safety Assessment and Risk Analysis | | | | 3 | 3 | 0 | |
| 人因工程 | Human Factors Engineering | | | | 3 | 3 | 0 | |
| 防火與防爆工程 | Fire and Explosion Protection Engineering | | | | 3 | 3 | 0 | |

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|----------|---|--|--|--|---|---|---|
| 營建安全 | Construction Safety | | | | 3 | 3 | 0 |
| 工業通風 | Industrial Ventilation | | | | 3 | 3 | 0 |
| 噪音與振動 | Noise and Vibration | | | | 3 | 3 | 0 |
| 作業環境測定 | Working Environment Monitoring | | | | 3 | 3 | 0 |
| 職業安全衛生管理 | Occupational safety and health management | | | | 3 | 3 | 0 |
| 空氣汙染防制 | Air Pollution Prevention | | | | 3 | 3 | 0 |

備註Note:

- 一、 畢業至少應修滿 34 學分【必修 10 學分(碩士論文6學分、專題討論4學分)，選修至少 24 學分】。
Students should complete at least 34 credits before graduation, including 10 required credits (Thesis 6 credits and Seminar 4 credits), 24 elective credits.
- 二、 研究生必須通過碩士班論文口試，方准予畢業。
Graduate students are only qualified for graduation after passing the thesis oral examination of the master's program and will be awarded with the master's degree according to law by the time of graduation.
- 三、 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 application.
- 四、 以同等學力資格入學之研究生需通過資格鑑定考試或於大學部所開設之 (1)單元操作或單元操作及輸送現象 (2)化工熱力學 (3)化學反應工程 (4)材料科學與工程概論 (5)普通化學 (6)有機化學 (7)物理化學等課程中任選兩門補修，以60分為及格成績且不計入畢業學分。
Graduate students admitted with equivalent academic qualifications are required to pass the qualification examination or select two courses from the following undergraduate offerings for remedial study: (1) Unit Operations or Unit Operations and Transport Phenomena, (2) Chemical Engineering Thermodynamics, (3) Chemical Reaction Engineering, (4) Introduction to Materials Science and Engineering, (5) General Chemistry, (6) Organic Chemistry, or (7) Physical Chemistry. A passing grade is 60 or above, and these two courses will not count towards graduation credits.
- 五、 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.