元智大學與福州大學雙聯學制

機械工程學系碩士班必選修科目表

（105學年度入學新生適用）

105.06.22 一○四學年度第六次教務會議通過

| 類別/組別  Group | 課號  Courses Number | 中文課名  Courses Chinese Name | 英文課名  Courses English Name | 學分數  Credits |
| --- | --- | --- | --- | --- |
| Required Course | ME503 | 書報討論 | Seminar | 0 |
| Elective Courses | EG501 | 統計實驗設計與應用 | Statistical Experimental Design and Application | 3 |
| EG502  ME518 | 能源材料 | Energy Materials | 3 |
| ME506 | 真空薄膜製程與檢測技術 | Vacuum Process and Characterization of Thin Films Materials | 3 |
| ME508 | 微機電量測技術 | MEMS Measurement Technology | 3 |
| ME510 | 微致動器原理 | Theory of Micro Actuator | 3 |
| ME511 | 彈性力學 | Elasticity | 3 |
| ME512 | 薄膜原理與製程技術 | The Principles and Technologies of Thin Film | 3 |
| ME513 | 電腦輔助設計及製造 | Computer Aided Design and Manufacturing | 3 |
| ME515 | 微分方程 | Differential Equations | 3 |
| ME516 | 核能發電 | Nuclear Power Generation | 3 |
| ME517 | 有限元素法 | Finite Element Method | 3 |
| ME519 | 熱對流學 | Convective Heat Transfer | 3 |
| ME521 | 高等流體力學 | Advanced Fluid Mechanics | 3 |
| ME525 | 線性系統 | Linear Systems | 3 |
| ME526 | 連體力學 | Continuum Mechanics | 3 |
| ME527 | 最佳化設計 | Design Optimization | 3 |
| ME530 | 破壞力學 | Fracture Mechanics | 3 |
| ME532 | 振動學 | Vibration | 3 |
| ME533 | 兩相流 | Theory of Two-phase Flow | 3 |
| ME534 | 高等熱傳學 | Advanced Heat Transfer | 3 |
| ME535 | 高等數值分析 | Advanced Numerical Analysis | 3 |
| ME536 | 燃燒學 | Combustion | 3 |
| ME537 | 自動飛行控制系統 | Automatic Flight Control System | 3 |
| ME538 | 計算流力及熱傳學 | Computational Fluid Dynamics and Heat Transfer | 3 |
| ME539 | 從物理學到生理學 | From Physics to Physiology: An Interdisciplinary Approach to Solve Biomedical Problems | 3 |
| ME540 | 自動化工程 | Automation and CIM | 3 |
| ME541 | 材料機械性質 | Mechanical Property of Materials | 3 |
| ME542 | 熱輻射 | Radiative Heat Transfer | 3 |
| ME543 | 高等工程材料 | Advanced Engineering Materials | 3 |
| ME544 | 微電腦與機械控制 | Microcomputers in Mechanical Systems | 3 |
| ME545 | 燃料電池專題 | Special Topic in Fuel Cell | 3 |
| ME547 | 多相流系統 | Multiphase Flows and Systems | 3 |
| ME549 | 電漿放電原理 | Principle of Plasma Discharge | 3 |
| ME550 | 幾何模型與電腦繪圖 | Geometric Modeling and Computer Graphics | 3 |
| ME551 | 高等製造工程與系統整合 | Advanced Manufacturing Technology and System Integration | 3 |
| ME553 | 電化學工程 | Electrochemical Engineering | 3 |
| ME554 | 板及殼原理 | Plate and Shell | 3 |
| ME555 | 黏滯流學 | Viscous Flow | 3 |
| ME556 | 高等工程數學 | Advanced Engineering Mathematics | 3 |
| ME557 | 非破壞檢測 | Non-Destructive Evaluation | 3 |
| ME558 | 數位控制 | Digital Control | 3 |
| ME561 | 污水處理設備設計 | Equipment Design for Waste Water Treatment | 3 |
| ME562 | 強健控制 | Robust Control | 3 |
| ME563 | 精密機械與量測 | Precision Engineering & Measurement | 3 |
| ME566 | 高等熱力學 | Advanced Thermodynamics | 3 |
| ME567 | 老人福祉科技 | Introduction to Gerontechnology | 3 |
| ME568 | 光電原理與應用 | Principles of Optoelectronics and Applications | 3 |
| ME570 | 焚化原理及技術 | Incineration | 3 |
| ME571 | 高等線性代數 | Advanced Linear Algebra | 3 |
| ME572 | 燃燒器設計與污染防治 | Combustor Design and Pollution Control | 3 |
| ME573 | 材料實驗方法 | Experimental Methods for Engineering Materials | 3 |
| ME574 | 燃料電池理論與數值分析 | Numeric Analysis for Fuel Cell Systems | 3 |
| ME575 | 電廠工程 | Power Plant Technology | 3 |
| ME577 | 防火工程 | Fire Protection Engineering | 3 |
| ME578 | 統計與資料分析 | Statistics and Data Analysis | 3 |
| ME579 | 高溫固態氧化物燃料電池 | High Temperature Solid Oxide Fuel Cell | 3 |
| ME580 | 材料疲勞損傷分析 | Fatigue of Engineering Materials | 3 |
| ME581 | 燃料電池技術與系統設計 | Fuel Cell Technology and System Design | 3 |
| ME583 | 推進系統概論與應用 | Rocket Propulsion System | 3 |
| ME584 | 新能源技術 | Advanced Technologies in Energy and its Applications | 3 |
| ME586 | 空氣污染控制設計 | Air Pollution Control Design | 3 |
| ME588 | 熱對流理論與設計應用 | Heat Transfer Theory and Design Applications | 3 |
| ME589 | 電子構裝力學分析 | Stress Analysis of Electronic Packaging | 3 |
| ME590 | 醫學工程原理與應用 | Principle and Applications of Biomedical Engineering | 3 |
| ME591 | 電子構裝失效模式分析 | Failure Modes in Electronic Packages | 3 |
| ME592 | 廢棄物處理特論 | Technology of Waste Treatment | 3 |
| ME594 | 微機電系統與技術檢測 | Micro-Electro Mechanical Systems and its testing Techniques | 3 |
| ME599 | 智慧控制系統 | Intelligent Control Systems | 3 |
| ME601 | 可壓縮流學 | Compressible Flow | 3 |
| ME603 | 複合材料力學 | Mechanics of Composite Material | 3 |
| ME607 | 實驗力學 | Experimental Mechanics | 3 |
| ME608 | 電子冷卻技術 | Electronic Cooling Techniques | 3 |
| ME610 | 創新產品設計 | Innovative Product Design | 3 |
| ME611 | 創新產品開發實務 | Innovative Product Development Practice | 3 |
| ME906 | 高溫氣體動力學 | High Temperature Gas Dynamics | 3 |
| ME924 | 誤差理論分析 | Error Theory Analysis | 3 |
| 備註  Remarks | 1. 最低畢業學分數：30學分（包含6學分論文）。其中於本所實際修習學分數至少須達10學分。 2. 書報討論（0學分）在元智修習期間為必修課程(至多修2學期)。 3. 系統選課前須填寫指導教授「選課同意表」，並經指導教授同意後使可選課，若擅自更改科目，爾後系上不承認該學分時不得有異議。 4. 入學研究生須依本校學術研究倫理教育課程實施要點規定，於入學第一學期結束前完成學術研究倫理教育課程，最遲須於申請學位口試前補修完成，未完成本課程，不得申請學位口試。 5. 其他相關規定請參閱網址http://www.mech.yzu.edu.tw/各項法規/課業/研究所(碩士班)。 | | | |

AA-CP-04-CF03 (1.2版)／101.11.15修訂

AA-CP-04-CF06 (1.2版)／101.11.15修訂

**附件五：**

