

國立虎尾科技大學

動力機械工程系機械與機電工程碩士班課程科目表

National Formosa University

105年6月16日104學年度第4次教務會議通過

Department of Power Mechanical Engineering

Curriculum for Master's Program (2016)

| First Academic Year | | | | | | |
|---------------------|---|--------|------|---|--------|------|
| | First Semester | | | Second Semester | | |
| | Course Name | Credit | Hour | Course Name | Credit | Hour |
| Required Courses | Chinese1 華語教學 1 | 0 | 4 | Chinese2 華語教學 2 | 0 | 4 |
| Required Courses | Seminar 1 專題研討 1 | 0 | 2 | Seminar 2 專題研討 2 | 0 | 2 |
| Elective Courses | Thin Film Engineering 薄膜工程 | 3 | 3 | Rapid Prototyping and Tooling 快速原型與快速模具 | 3 | 3 |
| Elective Courses | Numerical Method 數值方法 | 3 | 3 | Convective Heat Transfer 熱對流 | 3 | 3 |
| Elective Courses | Numerical Heat Transfer 數值熱傳 | 3 | 3 | Computational Methods for Fluid Dynamics 計算流體力學 | 3 | 3 |
| Elective Courses | Electric Motor Controls 電動機控制 | 3 | 3 | Linear System Analysis 線性系統分析 | 3 | 3 |
| Elective Courses | Elasticity 彈性力學 | 3 | 3 | Finite Element Method 有限元素法 | 3 | 3 |
| Elective Courses | Mechanical Vibrations 機械振動學 | 3 | 3 | Reliability Engineering 可靠度工程 | 3 | 3 |
| Elective Courses | Tribology Theory 磨潤原理 | 3 | 3 | Electronic Equipment Cooling System 電子裝備散熱系統 | 3 | 3 |
| Elective Courses | Digital Image Processing 數位影像處理 | 3 | 3 | Heat Transfer Analysis and Experiment for Electro-optic Product Design 光電產品熱傳分析與實驗 | 3 | 3 |
| Elective Courses | Design of Experiments 實驗設計 | 3 | 3 | Reliability Engineering Practice 可靠度工程實務 | 3 | 3 |
| Elective Courses | Probability and Statistics 機率與統計 | 3 | 3 | Systematic Innovation Design Theory 系統化創新設計理論 | 3 | 3 |
| Elective Courses | Micro Electric Machine System (MEMS) 微機電系統 | 3 | 3 | Heat Exchanger Design 熱交換器設計 | 3 | 3 |
| Elective Courses | Object-Oriented Programming 物件導向程式設計 | 3 | 3 | Product Competitive Analysis of High-tech Industry 高科技產業產品競爭力分析 | 3 | 3 |
| Elective Courses | Advanced Vehicle Dynamics 高等車輛動力學 | 3 | 3 | Development of Intelligent Technology for Vehicle 車輛智慧化關鍵技術發展 | 3 | 3 |
| Elective Courses | Design and Verification Technology for Automotive Electron 車輛電子設計與驗證技術 | 3 | 3 | Electric Motor Controls 電動機控制 | 3 | 3 |
| Elective Courses | | | | Artificial Intelligence and Its Applications 人工智慧與應用 | 3 | 3 |

Second Academic Year

| | First Semester | | | Second Semester | | |
|------------------|--|--------|------|---|--------|------|
| | Course Name | Credit | Hour | Course Name | Credit | Hour |
| Required Courses | Chinese 3 華語教學 3 | 0 | 4 | Chinese 4 華語教學 4 | 0 | 4 |
| Required Courses | Thesis 1 碩士論文 | 3 | 0 | Thesis 2 碩士論文 | 3 | 0 |
| Required Courses | Seminar 3 專題研討 3 | 0 | 2 | Seminar 4 專題研討 4 | 0 | 2 |
| Elective Courses | Industrial R&D Internship 1 產業研發實習(一) | 0 | 2 | Industrial R&D Internship 2 產業研發實習(二) | 0 | 2 |
| Elective Courses | Engineering Optics 工程光學 | 3 | 3 | Special Topic on Machine Tools 工具機特論 | 3 | 3 |
| Elective Courses | Optimum Design 最佳化設計 | 3 | 3 | Mold Flow Computer Simulation 電腦輔助模流分析 | 3 | 3 |
| Elective Courses | Energy Conversion Principle 電能轉換原理 | 3 | 3 | | | |
| Elective Courses | Computer-aided Mold Design 電腦輔助模具設計 | 3 | 3 | | | |

Note :

1.最低畢業學分： 30 學分。含必修學分(畢業論文)： 6 學分；選修學分：24 學分（選修學分含經核定之跨系所選修學分）。

【Minimum required credit: 30 credits with 6 required credits and 24 elective credits which may include pre-approved inter-institution elective credits.】

2.允許跨所選修不得高於 9 學分【Approving inter-institution 9 elective credits.】

3.外籍學生必修科目為華語教學 1(0 學分/4 小時)、華語教學 2(0 學分/4 小時)、華語教學 3(0 學分/4 小時)、華語教學 4(0 學分/4 小時)、可抵免專題研討學分。【Foreign Students Required Courses: Chinese 1、Chinese 2、Chinese 3 and Chinese 4.】

4. 產業研發實習(一)(0 學分/2 小時)、產業研發實習(二)(0 學分/2 小時) 可抵免專題研討 3、專題研討 4。