# 明志科技大學四技部106學年度入學 機械工程系光機電組 課程總表

107/10/2 校課程委員會審議通過
107/9/26 院課程委員會審議通過
107/3/21 系課程委員會審議通過

| | | | 科目名稱 | 一上 | | 一下 | | 二上 | | 二下 | | 三上 | | 三下 | | 四上 | | 四下 | | 每班人數 | | 備註 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 學分 | 時數 | 學分 | 時數 | 學分 | 時數 | 學分 | 時數 | 學分 | 時數 | 學分 | 時數 | 學分 | 時數 | 學分 | 時數 | 上限 | 下限 | |
| 必修 | 共同（41學分） | 基礎課程20學分 | 國文(Chinese) | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | |
| | | | 英文(English) | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | |
| | | | 體育(Physical Education) | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | | | | | | | | | | | |
| | | | 英語聽講(Aural-Oral English) | | | | | 1 | 2 | 1 | 2 | | | | | | | | | | | |
| | | | 歷史(History) | 3 | 3 | | | | | | | | | | | | | | | | | |
| | | | 憲政與發展(Constitution& Democratic Development) | | | 3 | 3 | | | | | | | | | | | | | | | |
| | | | 全民國防教育軍事訓練(一)(二) | 0 | 2 | 0 | 2 | | | | | | | | | | | | | | | |
| | | | 英文實務(一)~(四)(Practical English I, II, III, IV) | | | | | 0 | 2 | 0 | 2 | | | | | 0 | 2 | 0 | 2 | | | |
| | | | 合　計 | 9 | 13 | 9 | 13 | 1 | 6 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | | | |
| | | （共核心2學分） | 大學之道(The Goal of University Education) | 1 | 2 | | | | | | | | | | | | | | | | | |
| | | | 設計思考(Design Thinking) | 1 | 1 | | | | | | | | | | | | | | | | | |
| | | | 勤勞教育(Labor Education) | 0 | 0.5 | 0 | 0.5 | | | | | | | | | | | | | | | |
| | | | 合　計 | 2 | 3.5 | 0 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | （校共同19學分） | 工讀自學英文(Self-Study English During Vocational Practice) | | | | | | | | | | | 2 | | | | | | | | |
| | | | 實習前職場素養訓練(Professionalism Prior to Curricular Practical Training) | | | | | | | | | 1 | 1 | | | | | | | | | |
| | | | 工讀實務實習(一)~(四)(Curricular Practical Training I ~ IV) | | | | | | | | | | | 16 | | | | | | | | |
| | | | 合　計 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | | | |
| | 專業（72學分） | 院專業必修（13學分） | 實習前技術訓練(Hands-on Courses Prior to Curricular Practical Training) | | | | | | | | | 1 | 2 | | | | | | | | | |
| | | | 普通物理(一)(General Physics I) | 3 | 3 | | | | | | | | | | | | | | | | | |
| | | | 微積分(一)(二)(Calculus I & II) | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | |
| | | | 工程數學（一）(Engineering Mathematics I) | | | | | 3 | 3 | | | | | | | | | | | | | |
| | | | 合　計 | 6 | 6 | 3 | 3 | 3 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | 系專業必修41學分 | 機械工程專業能力認證課程Mechanical Engineering professional (competence) certification | | | | | | | | | | | | | | | 0 | 1 | | | |
| | | | 普通物理(二)(General Physics II) | | | 3 | 3 | | | | | | | | | | | | | | | |
| | | | 普通物理實驗(General Physics Laboratory) | | | | | 1 | 3 | | | | | | | | | | | | | |
| | | | 普通化學(General Chemistry) | 3 | 3 | | | | | | | | | | | | | | | | | |
| | | | 計算機程式與實習(Computer Programming and Practice) | 1 | 3 | | | | | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 電腦輔助機械製圖(一)(二)(Computer-Aided Mechanical Drawing I & II) | 1 | 3 | 1 | 3 | | | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 靜力學(Statics) | | | 3 | 3 | | | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 動力學(Dynamics) | | | | | 3 | 3 | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 材料力學(一)(Mechanics of Materials I) | | | | | 3 | 3 | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 材料科學與工程(Materials Science and Engineering) | | | | | | | 3 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 工程熱力學(一)(Engineering Thermodynamics I) | | | | | | | 3 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 機構學(Mechanism of Machinery) | | | | | | | 3 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 專題製作(一)(二)(Special Project I, II) | | | | | | | | | | | | | 1 | 3 | 1 | 3 | | | 光機電進階課程模組專題研究 |
| | | | 自動控制(一)(Automatic Control I) | | | | | | | 3 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 流體力學(Fluid Mechanics) | | | | | | | | | 3 | 3 | | | | | | | | | 光機電進階課程模組 |
| | | | 機械元件設計(一)(Design of Machine Elements I) | | | | | | | | | | | | | 3 | 3 | | | | | 光機電進階課程模組 |
| | | | 機械工程實驗(一)(Mechanical Engineering Laboratory I) | | | | | | | | | | | | | 1 | 3 | | | | | 光機電進階課程模組(固力與材料) |
| | | | 工程倫理與專業實務講座(Lectures in Engineering Ethics and Practice) | | | | | | | | | | | | | 1 | 3 | | | | | |
| | | | 合　計 | 5 | 9 | 7 | 9 | 7 | 9 | 12 | 12 | 3 | 3 | 0 | 0 | 6 | 12 | 1 | 4 | | | |
| | | 分組必修18學分 | 電機學與實驗(Electric Machinery with Laboratory) | | | 2 | 4 | | | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 電子學(Electronics) | | | | | 3 | 3 | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 精密量測與實習(Precision Measurement and Practice) | | | | | 1 | 3 | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 電子學實驗(Electronics Laboratory) | | | | | | | 1 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 機電整合(Mechatronics) | | | | | | | 3 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 機電整合實驗(Mechatronics Laboratory) | | | | | | | | | 1 | 3 | | | | | | | | | 光機電基礎課程模組 |
| | | | 工程光學與實驗(Engineering Optics with Laboratory) | | | | | | | | | 1 | 3 | | | | | | | | | 光機電進階課程模組 |
| | | | 製造學(Manufacturing Principles) | | | | | | | | | 3 | 3 | | | | | | | | | 光機電進階課程模組 |
| | | | 基本感測實驗(Sensor Laboratory) | | | | | | | | | | | | | 1 | 3 | | | | | 光機電進階課程模組 |
| | | | 機械工程實驗(二)(Mechanical Engineering Laboratory II) | | | | | | | | | | | | | | | 1 | 3 | | | 光機電進階課程模組(流力與熱工) |
| | | | 光電子學與實驗(Optoelectronics with Laboratory) | | | | | | | | | | | | | | | 1 | 3 | | | 光機電進階課程模組 |
| | | | 合　計 | 0 | 0 | 2 | 4 | 4 | 6 | 4 | 6 | 5 | 9 | 0 | 0 | 1 | 3 | 2 | 6 | | | |
| 選修 | 共同至少8學分（應修畢） | 通識選修 | 一、開課清冊請參考「通識課程彙總表」。<br>二、通識五類型課程「語言與全球化、人文藝術、社會科學、自然科學」<br>任選四類型各修畢2學分且合計至少8學分。 | | | | | | | | | | | | | | | | | | | |
| | 專業（應修畢至少18學分） | （院專業選修1學分） | 工業配電實務(Industrial Power Distribution System Practice) | | | | | | | | | | | | | | | 1 | 2 | | | 最後一哩課程-電機系開設 |
| | | （院開設10學分） | 虛擬儀控軟體應用(LABVIEW)(LabVIEW Simulation Applications) | | | | | | | | | | | | | 1 | 2 | | | | | 最後一哩課程-電機系開設 |
| | | | TOEIC檢定輔導(TOEIC －Test Training Course) | | | | | | | | | | | | | | | 1 | 2 | | | 最後一哩課程-電子系開設 |
| | | | 模擬軟體應用(MATLAB)(Applications of simulation software(MATLAB)) | | | | | | | | | | | | | 1 | 2 | | | | | 最後一哩課程-電子系開設 |
| | | | 科技產業英文(Technical Industry English ) | | | | | | | | | | | | | 1 | 2 | | | | | 最後一哩課程-機械系開設 |
| | | | 車輛保養實務(Vehicle Maintenance Practices) | | | | | | | | | | | | | 1 | 2 | | | | | 最後一哩課程-機械系開設 |
| | | | 管線設計概論(Introduction of Piping Design) | | | | | | | | | | | | | | | 1 | 2 | | | 最後一哩課程-機械系開設 |
| | | | 電動車機電整合工程實務(Electric vehicle development and application technology) | | | | | | | | | | | | | 3 | 3 | | | | | 最後一哩課程-機械系開設 |
| | | | 合　計 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 11 | 3 | 6 | | | |
| | | 系專業選修（開設53學分） | 機械加工實習(Practical Training of Machining) | 1 | 3 | | | | | | | | | | | | | | | | | 光機電基礎課程模組<br>高中及高職非機械,模具科畢業必選 |
| | | | C++程式語言與應用(Computer Programming and Applications) | | | | | 3 | 3 | | | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 電腦輔助設計(一)(Computer-Aided Design I) | | | | | 1 | 3 | | | | | | | | | | | | | 光機電基礎課程模組<br>高中及高職非製圖,模具科畢業必選 |
| | | | 單晶片原理與應用(Single Chip Principle and Applications) | | | | | | | 3 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 工程數學(二)(Engineering Mathematics II) | | | | | | | 3 | 3 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 創意思考(Creative Thinking) | | | | | | | 2 | 2 | | | | | | | | | | | 光機電基礎課程模組 |
| | | | 控制工程軟體應用(Softwares for Control Engineering) | | | | | | | | | 3 | 3 | | | | | | | | | 光機電進階課程模組 |
| | | | 光電材料(Electrical and Optical Materials) | | | | | | | | | 3 | 3 | | | | | | | | | 光機電進階課程模組 |
| | | | 自動控制(二)(Automatic Control II) | | | | | | | | | 3 | 3 | | | | | | | | | 光機電進階課程模組 |
| | | | 半導體製程(Semiconductor Process) | | | | | | | | | | | 3 | 3 | | | | | | | 光機電進階課程模組<br>遠距課程 |
| | | | 生醫光電概論(Introduction to Biophotonics) | | | | | | | | | | | 3 | 3 | | | | | | | 光機電進階課程模組<br>遠距課程 |
| | | | 氣壓學與實習(Pneumatic System and Practice) | | | | | | | | | | | | | 3 | 3 | | | | | 光機電進階課程模組 |
| | | | 新能源工程導論(Introduction to New Energy Engineering) | | | | | | | | | | | | | 3 | 3 | | | | | 光機電進階課程模組 |
| | | | 電動機控制(Electrical Motor Control) | | | | | | | | | | | | | 3 | 3 | | | | | 光機電進階課程模組 |
| | | | 熱傳學(Heat Transfer) | | | | | | | | | | | | | 3 | 3 | | | | | 光機電進階課程模組 |
| | | | 模具設計與製造(Design and Manufacture of Mould) | | | | | | | | | | | | | 3 | 3 | | | | | 光機電進階課程模組 |
| | | | 化工產業之機電實務講座(Lectures on electro-mechanical engineering practice for chemical industry) | | | | | | | | | | | | | 3 | 3 | | | | | 光機電進階課程模組 |
| | | | 光學系統模擬與設計(Simulation and Design of Optical Systems) | | | | | | | | | | | | | | | 3 | 3 | | | 光機電進階課程模組 |
| | | | 自動化檢測(Automatic Inspection) | | | | | | | | | | | | | | | 3 | 3 | | | 光機電進階課程模組 |
| | | | 微系統製程與實驗(Micro System Process and Laboratory) | | | | | | | | | | | | | | | 1 | 3 | 15 | | 光機電進階課程模組 |
| | | | 合　計 | 1 | 3 | 0 | 0 | 4 | 6 | 8 | 8 | 9 | 9 | 6 | 6 | 18 | 18 | 7 | 9 | | | |

1 最低畢業學分：共同必修41學分，通識選修至少 8 學分(五類型，任選四類各 2 學分)，院共同必修13學分，院專業選修任選至少1學分，專業必修59學分，專業選修任選至少18學分，一般選修(可外修)至少 8 學分，合計148學分。

2 學生修畢第二專長學程時，最低畢業學分調整為共同必修41學分，通識選修至少 8 學分(五類型，任選四類各 2 學分)，院共同必修13 學分，院專業選修任選至少1學分，專業必修59學分，專業選修任選至少26學分(含外修15學分)，合計148學分。

3 「工讀實務實習(一)~(四)」及「工讀自學英文」為三下必修，另外可選修遠距教學課程。

4 每學期選課上限為 27 學分，一至二年級不得少於16學分，三至四年級不得少於9學分。

5 三上課程每週以4/3倍時數上課，以補足週數。