

112學年度日間部 機械工程系 國際學生產學合作專班課程規劃表

| 學年度  |            | 112      |    |          |        | 學年度  |              | 113      |    |          |          | 學年度  |          | 114      |    |          |    |
|------|------------|----------|----|----------|--------|------|--------------|----------|----|----------|----------|------|----------|----------|----|----------|----|
| 科目   |            | FEB 2024 |    | SEP 2024 |        | 科目   |              | FEB 2025 |    | SEP 2025 |          | 科目   |          | FEB 2026 |    | SEP 2026 |    |
|      |            | 學分       | 時數 | 學分       | 時數     |      |              | 學分       | 時數 | 學分       | 時數       |      |          | 學分       | 時數 | 學分       | 時數 |
| 校必修  | 體育         | 2        | 2  | 2        | 2      | 校必修  |              |          |    |          | 校必修      | 台灣社會 | 2        | 2        |    |          |    |
|      | 漢語拼音發音練習   | 1        | 2  |          |        |      |              |          |    |          |          | 台灣藝術 |          |          | 2  | 2        |    |
|      | 華語輔導       | 0        | 5  |          |        |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 華語聽力練習     | 1        | 2  |          |        |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 華語會話練習     | 1        | 2  |          |        |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 華語閱讀與理解    | 1        | 2  |          |        |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 華語寫作練習     | 1        | 2  |          |        |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 華人文學       |          |    | 3        | 3      |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 華人文化       |          |    | 3        | 3      |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 台灣生活與法律    |          |    | 2        | 2      |      |              |          |    |          |          |      |          |          |    |          |    |
| 台灣文化 |            |          | 2  | 2        |        |      |              |          |    |          |          |      |          |          |    |          |    |
| 小計   |            | 7        | 17 | 12       | 12     | 小計   |              |          |    |          |          | 小計   |          | 2        | 2  | 2        | 2  |
| 院必修  | 科技英文(一)(二) | 2        | 2  | 2        | 2      | 院必修  |              |          |    |          | 院必修      | 物理   | 2        | 2        |    |          |    |
|      | 程式設計       |          |    | 2        | 2      |      |              |          |    |          |          |      |          |          |    |          |    |
|      | 小計         | 2        | 2  | 4        | 4      |      | 小計           |          |    |          |          |      | 小計       | 2        | 2  | 0        | 0  |
| 專業必修 | 應用數學       |          |    | 3        | 3      | 專業必修 | 產業實務實習(一)(二) | 9        | 9  | 9        | 32       | 專業必修 | 電腦機械繪圖   | 3        | 3  |          |    |
|      | 機械概念與機械製圖  | 3        | 3  |          |        |      |              |          |    |          | 自動控制實務   |      | 2        | 2        |    |          |    |
|      | 人工智慧概論     |          |    | 2        | 2      |      |              |          |    |          | 機械材料     |      | 3        | 3        |    |          |    |
|      | 機械製造       | 3        | 3  |          |        |      |              |          |    |          | 機電整合基礎   |      | 3        | 3        |    |          |    |
|      |            |          |    |          |        |      |              |          |    |          | 機械元件設計   |      |          |          | 3  | 3        |    |
|      |            |          |    |          |        |      |              |          |    |          | 電機學實務    |      |          |          | 2  | 2        |    |
|      |            |          |    |          |        |      |              |          |    |          | 動力學      |      |          |          | 2  | 2        |    |
|      |            |          |    |          |        |      |              |          |    |          | 精密量具及檢驗  |      |          |          | 3  | 3        |    |
|      |            |          |    |          |        |      |              |          |    |          | 工程倫理     |      |          |          | 2  | 2        |    |
|      | 小計         | 6        | 6  | 5        | 5      |      | 小計           | 9        | 9  | 9        | 32       |      | 小計       | 11       | 11 | 12       | 12 |
| 專業選修 | 機械工程概論     |          |    | 3        | 3      | 專業選修 | 機械加工實務(一)(二) | 3        | 3  | 3        | 3        | 專業選修 | 焊接技術     | 3        | 3  |          |    |
|      | 靜力學        | 3        | 3  |          |        |      | 智慧製造技術       |          |    | 3        | 3        |      | 半導體製程與設備 | 3        | 3  |          |    |
|      |            |          |    |          | 切削技術實務 |      |              |          | 3  | 3        | 工程數學     |      | 3        | 3        |    |          |    |
|      |            |          |    |          | 機電整合實務 |      |              |          | 3  | 3        | 電腦輔助實體設計 |      | 3        | 3        |    |          |    |
|      |            |          |    |          |        |      |              |          |    |          | 氣壓學實務    |      | 3        | 3        |    |          |    |
|      |            |          |    |          |        |      |              |          |    |          | 電腦輔助機械分析 |      |          |          | 3  | 3        |    |
|      |            |          |    |          |        |      |              |          |    |          | 產品設計與開發  |      |          |          | 3  | 3        |    |
|      |            |          |    |          |        |      |              |          |    |          | 材料力學     |      |          |          | 3  | 3        |    |
|      |            |          |    |          |        |      |              |          |    |          | 機器人工程    |      |          |          | 3  | 3        |    |
|      |            |          |    |          |        |      |              |          |    |          |          |      | 電腦輔助製造   |          |    | 3        | 3  |

| 學年度  |              | 115      |    |          |    |
|------|--------------|----------|----|----------|----|
| 科目   |              | FEB 2027 |    | SEP 2027 |    |
|      |              | 學分       | 時數 | 學分       | 時數 |
| 校必修  |              |          |    |          |    |
|      | 小計           |          |    |          |    |
| 院必修  |              |          |    |          |    |
|      | 小計           |          |    |          |    |
| 專業必修 |              |          |    |          |    |
|      | 小計           |          |    |          |    |
| 專業選修 | 產業實務實習(三)(四) | 9        | 32 | 9        | 32 |
|      | 系統化創新方法概論    | 3        | 3  |          |    |
|      | 產品設計與實作      | 3        | 3  |          |    |
|      | 逆向工程技術       | 3        | 3  |          |    |
|      | 熱學工程應用       | 3        | 3  |          |    |
|      | 產品設計實務       | 3        | 3  |          |    |
|      | 冷凍空調實務       | 3        | 3  |          |    |
|      | 熱處理實務        | 3        | 3  |          |    |
|      | 粉末冶金         |          |    | 3        | 3  |
|      | 表面處理         |          |    | 3        | 3  |
|      | 電腦輔助製造       |          |    | 3        | 3  |
|      | 金屬成形設計與分析    |          |    | 3        | 3  |

## 注意事項：

1. 最低畢業學分：128學分；必修學分：83學分  
選修學分：45學分（選修學分含跨系選修學分）
2. 學生應修習華語輔導課程(0學分5小時)，並於第一學年上學期實施。
3. 校外實習課程：產業實務實習(一)(二)(三)(四)，一學分至多80小時校外實習課程。  
產業實務實習(一)、(二)實際實習時數每週32-36小時，產業實務實習(三)、(四)實際實習時數每週32-40小時。

明新學校財團法人明新科技大學  
機械工程系課程規劃委員會

機械系課務委員 王派祥

機械工程系主任 鄒國益

課務會議：114/2/17修訂通過  
院務會議  
教務會議：

工程學院院長 李志鴻

**MUST Curriculum Planning for Undergraduate Students of Academic Year 2024-2027,  
Department of Mechanical Engineering**

| Year                                 |                                           | 112      |           |           |           | Year                                 |                                | 113      |          |          |          | Year                                 |                                                    | 114       |           |           |           |
|--------------------------------------|-------------------------------------------|----------|-----------|-----------|-----------|--------------------------------------|--------------------------------|----------|----------|----------|----------|--------------------------------------|----------------------------------------------------|-----------|-----------|-----------|-----------|
|                                      | Course                                    | FEB 2024 |           | SEP 2024  |           |                                      | Course                         | FEB 2025 |          | SEP 2025 |          |                                      | Course                                             | FEB 2026  |           | SEP 2026  |           |
|                                      |                                           | Cr.      | hr.       | Cr.       | hr.       |                                      |                                | Cr.      | hr.      | Cr.      | hr.      |                                      |                                                    | Cr.       | hr.       | Cr.       | hr.       |
| MUST Core Required Courses           | Physical Education                        | 2        | 2         | 2         | 2         | MUST Core Required Courses           |                                |          |          |          |          | MUST Core Required Courses           | Taiwanese Society                                  | 2         | 2         |           |           |
|                                      | Chinese Pinyin & Pronunciation Practice   | 1        | 2         |           |           |                                      |                                |          |          |          |          |                                      | Taiwanese Art                                      |           |           | 2         | 2         |
|                                      | Chinese tutor                             | 0        | 5         |           |           |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Chinese Listening                         | 1        | 2         |           |           |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Chinese Daily Speaking                    | 1        | 2         |           |           |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Chinese Reading                           | 1        | 2         |           |           |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Chinese Writing                           | 1        | 2         |           |           |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Chinese Literature                        |          |           | 3         | 3         |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Chinese Culture                           |          |           | 3         | 3         |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Taiwanese Classified General Education    |          |           | 2         | 2         |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | Taiwanese Culture                         |          |           | 2         | 2         |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | <b>Subtotal</b>                           | <b>7</b> | <b>17</b> | <b>12</b> | <b>12</b> |                                      | <b>Subtotal</b>                |          |          |          |          |                                      | <b>Subtotal</b>                                    | <b>2</b>  | <b>2</b>  | <b>2</b>  | <b>2</b>  |
| School Professional Required Courses | Technical English(I)(II)                  | 2        | 2         | 2         | 2         | School Professional Required Courses |                                |          |          |          |          | School Professional Required Courses | Physics                                            | 2         | 2         |           |           |
|                                      | Introduction to Programming               |          |           | 2         | 2         |                                      |                                |          |          |          |          |                                      |                                                    |           |           |           |           |
|                                      | <b>Subtotal</b>                           | <b>2</b> | <b>2</b>  | <b>4</b>  | <b>4</b>  |                                      | <b>Subtotal</b>                |          |          |          |          |                                      | <b>Subtotal</b>                                    | <b>2</b>  | <b>2</b>  | <b>0</b>  | <b>0</b>  |
| compulsory courses                   | Applied Mathematics                       |          |           | 3         | 3         | compulsory courses                   | Industrial Practice (I)(II)    | 9        | 32       | 9        | 32       | compulsory courses                   | Computer Aided Mechanical Drafting                 | 3         | 3         |           |           |
|                                      | Mechanical Concept and Mechanical Drawing | 3        | 3         |           |           |                                      |                                |          |          |          |          |                                      | Automatic Control Practice                         | 2         | 2         |           |           |
|                                      | Introduction to Artificial Intelligence   |          |           | 3         | 3         |                                      |                                |          |          |          |          |                                      | Mechanical Materials                               | 3         | 3         |           |           |
|                                      | Manufacturing Processes                   | 3        | 3         |           |           |                                      |                                |          |          |          |          |                                      | Fundamentals of Mechanics                          | 3         | 3         |           |           |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Design of Machine Elements                         |           |           | 3         | 3         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Mechanics and Practice                             |           |           | 2         | 2         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Dynamics                                           |           |           | 2         | 2         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Precision Instrument and Parts Inspections         |           |           | 3         | 3         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Ethics for Engineers                               |           |           | 2         | 2         |
|                                      | <b>Subtotal</b>                           | <b>6</b> | <b>6</b>  | <b>6</b>  | <b>6</b>  |                                      | <b>Subtotal</b>                | <b>9</b> | <b>0</b> | <b>9</b> | <b>0</b> |                                      | <b>Subtotal</b>                                    | <b>11</b> | <b>11</b> | <b>12</b> | <b>12</b> |
| Elective Courses                     | Introduction to Mechanical Engineering    |          |           | 3         | 3         | Elective Courses                     | Machining Practice (I)(II)     | 3        | 3        | 3        | 3        | Elective Courses                     | Welding Techniques                                 | 3         | 3         |           |           |
|                                      | Applied Mechanics (Statics)               | 3        | 3         |           |           |                                      | Smart Manufacturing Technology |          |          | 3        | 3        |                                      | Semiconductor Manufacturing Process and Equipments | 3         | 3         |           |           |
|                                      |                                           |          |           |           |           |                                      | Practice to Cutting Technology |          |          | 3        | 3        |                                      | Engineering Mathematics                            | 3         | 3         |           |           |
|                                      |                                           |          |           |           |           |                                      | Practice of Mechatronics       |          |          | 3        | 3        |                                      | CAD of Solid Design                                | 3         | 3         |           |           |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Pneumatics Practice                                | 3         | 3         |           |           |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Computer Aided Mechanical Analysis                 |           |           | 3         | 3         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Product Design and Practice                        |           |           | 3         | 3         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Mechanics of Materials                             |           |           | 3         | 3         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Robotic Engineering                                |           |           | 3         | 3         |
|                                      |                                           |          |           |           |           |                                      |                                |          |          |          |          |                                      | Computer-Aided Manufacturing                       |           |           | 3         | 3         |

| Year                                 |                                                        | 115      |     |          |     |
|--------------------------------------|--------------------------------------------------------|----------|-----|----------|-----|
|                                      | Course                                                 | FEB 2027 |     | SEP 2027 |     |
|                                      |                                                        | Cr.      | hr. | Cr.      | hr. |
| MUST Core Required Courses           |                                                        |          |     |          |     |
|                                      | <b>Subtotal</b>                                        |          |     |          |     |
| School Professional Required Courses |                                                        |          |     |          |     |
|                                      | <b>Subtotal</b>                                        |          |     |          |     |
| compulsory courses                   |                                                        |          |     |          |     |
|                                      | <b>Subtotal</b>                                        |          |     |          |     |
| Elective Courses                     | Industrial Practice (III)(IV)                          | 9        | 32  | 9        | 32  |
|                                      | Introduction to Systematic Innovation Method           | 3        | 3   |          |     |
|                                      | Practical design of products                           | 3        | 3   |          |     |
|                                      | Technology in Reverse Engineering                      | 3        | 3   |          |     |
|                                      | Application in Thermo Engineering                      | 3        | 3   |          |     |
|                                      | Product Design Practice                                | 3        | 3   |          |     |
|                                      | Practices of Freezing and Air-Conditioning Engineering | 3        | 3   |          |     |
|                                      | Heat Treatment                                         | 3        | 3   |          |     |
|                                      | Powder Metallurgy                                      |          |     | 3        | 3   |
|                                      | Surface Processing                                     |          |     | 3        | 3   |
|                                      | Computer Aided Manufacturing                           |          |     | 3        | 3   |
|                                      | Metal Forming Design and Analysis                      |          |     | 3        | 3   |
|                                      |                                                        |          |     |          |     |
|                                      |                                                        |          |     |          |     |
|                                      |                                                        |          |     |          |     |

Cr./hr.=Credit/hour

Remarks:

1. Minimum credits required for graduation: 128 credits including 832 compulsory credits, and at least 45 elective credits(including the interdepartmental elective credits).
2. Undergraduate students shall take 5-hour chinese tutoring courses (0 credits) in the first semester of the first academic year.
3. The off-campus internship courses include: Industry Practice Internship (I), (II), (III), (IV), with a maximum of 80 hours of off-campus internship for one credit. Industry Practice Internship (I) and (II): The actual internship hours range from 32 to 36 hours per week. Industry Practice Internship (III) and (IV): The actual internship hours range from 32 to 40 hours per week.
4. The elective courses listed in the tables are subject to adaptation when necessary.

明新學校財團法人明新科技大學  
機械工程系課程規劃委員會

機械系王派祥  
課務委員  
機械工程系  
主任鄒國益

工程學院  
院長李志鴻