

淡江大學 114學年度 機械與機電工程學系博士班 入學新生課程規劃表  
Curriculums of the Department of Mechanical and Electro-Mechanical Engineering  
Doctoral Program at Tamkang University  
(Applicable to Newly-Admitted Students for the 2025 Academic Year)

| 科目名稱 /Subjects                                                                                  |                                                                                                                 | 學分<br>Credits | 第1學年              |                 | 第2學年              |                 | 第3學年              |                 | 第4學年              |                 | 備註<br>Remarks                                                                                                                                                                                                                                                  |  |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                                                                 |                                                                                                                 |               | 1st Academic Year |                 | 2nd Academic Year |                 | 3rd Academic Year |                 | 4th Academic Year |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 |                                                                                                                 |               | 第1學期              | 第2學期            | 第1學期              | 第2學期            | 第1學期              | 第2學期            | 第1學期              | 第2學期            |                                                                                                                                                                                                                                                                |  |
|                                                                                                 |                                                                                                                 |               | 1st<br>Semester   | 2nd<br>Semester | 1st<br>Semester   | 2nd<br>Semester | 1st<br>Semester   | 2nd<br>Semester | 1st<br>Semester   | 2nd<br>Semester |                                                                                                                                                                                                                                                                |  |
| ■本系必修課程：4學分<br>Required Courses：4 credits                                                       | 書報討論（一）<br>Seminar(I)                                                                                           | 1             | 1                 |                 |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 書報討論（二）<br>Seminar(II)                                                                                          | 1             |                   | 1               |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 書報討論（三）<br>Seminar(III)                                                                                         | 1             |                   |                 | 1                 |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 書報討論（四）<br>Seminar(IV)                                                                                          | 1             |                   |                 |                   | 1               |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 資格考試<br>Qualifying Exam                                                                                         | 0             |                   |                 |                   | 0               |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 論文<br>Thesis                                                                                                    | 0             |                   |                 |                   | 0               |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
| ■本系系選修課程：至少須修14學分以上。<br>Department Elective Courses: A minimum of 14 credits must be completed. | 進階能源轉換<br>Advanced Energy Conversion                                                                            | 3             | 3                 |                 |                   |                 |                   |                 |                   |                 | 附註：<br>系選修課程之開設科目，將依據本校規定可開課學分數開課。不是每個科目都會開課。<br><br>Note:<br>The elective courses offered by the department will be arranged based on the number of credits permitted under the university's regulations. Not all listed courses will necessarily be offered. |  |
|                                                                                                 | 流體機械及冷凍空調實務<br>Practice of Turbomachinery and Air                                                               | 3             | 3                 |                 |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 企業研發實務<br>Practice of Business Research and Development                                                         | 3             | 3                 |                 |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 工業4.0理論的設計與應用<br>Design and Application of Industry 4.0 Theory                                                  | 3             | 3                 |                 |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 廢棄物氣化發電系統最佳化開發與再利用<br>Optimal Development And Reuse of Waste Gasification Power Generation System               | 3             | 3                 |                 |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 無人飛行器網路、通訊、導航與反制<br>Unmanned Aerial Vehicle Networks, Communications, Navigation and Counterattack              | 3             | 3                 |                 |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 熱管科學與技術<br>Heat Pipe Science and Technology                                                                     | 3             |                   | 3               |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 感測器與驅動器<br>Sensors and Actuators                                                                                | 3             |                   | 3               |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 產業與城市低碳化與智慧化之設計與建置<br>Design and Construction of Low-Carbon and Smart Industries and Cities                     | 3             |                   | 3               |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 磁浮軸承ORC發電機設計、開發與應用<br>Design, Development and Application of Magnetic Levitation(mag-lev) Bearing ORC Generator | 3             |                   | 3               |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 海洋能最佳化設計與開發<br>Ocean Energy Optimization Design and Development                                                 | 3             |                   | 3               |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |
|                                                                                                 | 生成式AI與自然語言處理<br>Generative AI and Natural Language Processing                                                   | 1             |                   | 1               |                   |                 |                   |                 |                   |                 |                                                                                                                                                                                                                                                                |  |

(1)必修科目總學分數：4學分

(1)Total Credits for Required Courses: 4 credits

(2)最低應修本系選修科目總學分數：14學分

(2)Minimum Credits Required for Departmental Elective Courses: 14 credits

**畢業總學分數：18學分**

**Total Number of Credits Required for Graduation: 18 credits**