

# 國立陽明交通大學 機械工程學系 跨域學程實施要點

## National Yang Ming Chiao Tung University Department of Mechanical Engineering Guidelines for Cross-disciplinary Program Implementation

110 年 10 月 13 日系務會議通過  
110 年 9 月 30 日系教學與課程委員會議通過  
110 年 11 月 3 日工學院課程委員會議通過  
110 年 12 月 2 日校課程委員會議通過  
110 年 12 月 16 日教務會議核備通過  
112 年 3 月 31 日系教學與課程委員會議修正通過  
112 年 4 月 11 日工學院課程委員會議通過  
112 年 5 月 16 日校課程委員會議通過  
112 年 5 月 30 日教務會議核備通過  
113 年 3 月 7 日系教學與課程委員會議修正通過  
113 年 4 月 15 日工學院課程委員會議通過  
113 年 5 月 20 日校課程委員會議通過

一、國立陽明交通大學機械工程學系(以下簡稱本系)為鼓勵學生進行跨領域學習，建立跨域學習深度，協助學生拓展第二專長，特訂定本要點。

Article One The guidelines are set up for Department of Mechanical Engineering of National Yang Ming Chiao Tung University (hereinafter referred to as Our Department) to provide the opportunity for students to pursue cross-disciplinary learning and to encourage students to conduct cross-disciplinary study, contribute to the development of cross-disciplinary study, and assist students in expanding a second specialty.

### 二、本要點實施對象

1. 凡本校 104 學年度(含)之後入學之學士班學生均適用本要點。
2. 本系學生欲修習跨域學程者。
  - (1). 得於每年度公告申請期限內向本系提出申請，申請時註明欲申請的第二專長系所或學院。申請案經本系課程委員會審查通過後，需送到第二專長系所或學院審查，通過雙邊審查後，方可進入跨域學程。
  - (2). 本系學生修習跨域學程的課程，其課程包含：校必修(含共同必修 24 學分)、本系必修課程(76 學分)、本系專業選修至少 6 門(包含核心選修至少 4 門)，以及第二專長系所或學院的跨域模組課程(28-31 學分；其中至多採計他系跨域模組課程 13 學分為本系畢業學分)。  
他系跨域模組課程認定為跨域專長，於畢業證書本系名稱後加註此跨域專長。
  - (3). 本系學生修習跨域學程，若無法修畢跨域學程課程，得選擇放棄跨域學程，改修習本系的學士學位課程。
3. 外系學生欲修習跨域學程且選擇本系為其跨域專長者。

- (1). 得於每年度公告申請期限內向其所屬學系(以下簡稱原系)提出申請，通過原系以及本系的雙邊審查後，方可進入跨域學程。
- (2). 外系學生修讀跨域學程且選擇本系做為其跨域專長者，其課程包含：校必修(含共同必修 24 學分)，原系基礎必修課程，原系跨域模組課程，以及列示於「機械工程學系跨域模組課程必修科目表」(如下表)的模組課程，並於畢業證書原系名稱後加註「機械工程」為其跨域專長。

#### Article Two Target students for the guideline

1. All undergraduates matriculated at Our University in and after academic year 2015.
2. For students of our department who would like to take cross-disciplinary program.
  - (1) Students can submit applications to our department within the dates of annual announcement by faculty. The application should be submitted to the department or college of the second specialty after being verified by our departmental teaching & curricular committee; students can enroll in the cross-disciplinary program once they pass reviews of both sides.
  - (2) For students of our departments who would like to take cross-disciplinary specialty, the courses include compulsory courses at the university (including 24 credits for common compulsory courses), core curriculum at our department (76 credits), at least 6 elective courses at our department (including at least 4 core elective courses), and cross-disciplinary program module curriculum of the secondary department or college (28-31 credits of which up to 13 credits of cross-disciplinary program courses at other department can be counted into the graduation credits of our department). The cross-disciplinary program module at other departments would be recognized as “cross-disciplinary specialty”, and it will be remarked after the title of our department on the diploma.
  - (3) For students of our department who study cross-disciplinary program but are not able to complete the program, they shall give up the cross-disciplinary program and take credits of bachelor degree program at their original department, which means Department of Mechanical Engineering.
3. For students from other departments who would like to take cross-disciplinary program and choose our department as his/her cross-disciplinary specialty.
  - (1) Students can submit applications to the department in which they are matriculated (hereinafter referred to as the original department); students can be enrolled in the cross-disciplinary program after they pass the bilateral review of their department and our department.
  - (2) For students from other departments who would like to choose our

department to study his/her cross-disciplinary specialty, the courses must include compulsory courses at the university (including 24 credits for common compulsory courses), core curriculum of the original department, cross-disciplinary program module curriculum of the original department, and module curriculum listed in the “Compulsory courses list: cross-disciplinary module curriculum for Department of Mechanics Engineering” (refer to the list below). “Mechanical Engineering” could be marked as a “cross-disciplinary specialty” on the diploma after the title of the original department.

三、本系由系主任指定一名專任教師擔任跨域學程導師，與原系所或學院的跨域學程導師組成導師群，專責輔導跨域學程的學生。

Article Three To give guidance to the students at this program, our department chairman assigns a full-time teacher as the mentor in the cross-disciplinary program and helps form mentor groups with mentors from the cross-disciplinary program of the original departments or colleges.

四、為鼓勵不同系所或學院合作提出跨域共授課程，兩位以上教師開授跨領域之創新整合式課程，得依本校教師授課時數核計原則規定辦理。

Article Four In order to encourage different departments or colleges to work together for the proposal of cross-disciplinary curriculum, the number of teaching hours for the innovating integrated curriculum offered by more than two teachers could be calculated according to National Yang Ming Chiao Tung University Principles for Verifying and Calculating Teachers' Teaching Hours.

五、本要點如有未盡事宜，悉依本校學則及其他相關規定辦理。

Article Five If there is any unaccomplished matter of the guidelines, it shall be handled in accordance with the school constitution of our university as well as other relevant regulations.

六、本要點經系、院及校級課程委員會通過後實施，修訂時亦同。

Article Six The guidelines are approved by the department, college and school-level curriculum committee before putting it into practice, and shall do the same upon any amendment thereto.

# 機械工程學系 跨域模組課程 必修科目表

## Compulsory Courses List

### Cross-disciplinary Module Curriculum for the Department of Mechanical Engineering

| 類別<br>Category                                                                             | 科目名稱<br>Course Name                    | 學分<br>Credit | 開課系所<br>Department                                                                                                            | 備註<br>Remark                       |
|--------------------------------------------------------------------------------------------|----------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 專業必修<br>professional<br>required<br>courses                                                | 應用力學(一)<br>Applied Mechanics (I)       | 3            | 機械系(或經本系審核通過之科系)<br>Department of Mechanical Engineering (or programs/departments under review and approval by ME department) | 至少<br>18 學分<br>At least 18 credits |
|                                                                                            | 應用力學(二)<br>Applied Mechanics (II)      | 3            |                                                                                                                               |                                    |
|                                                                                            | 材料力學<br>Mechanics of Materials         | 3            |                                                                                                                               |                                    |
|                                                                                            | 圖學 Graphics                            | 1            |                                                                                                                               |                                    |
|                                                                                            | 工程材料<br>Engineering Materials          | 3            |                                                                                                                               |                                    |
|                                                                                            | 自動控制(一)<br>Automatic Control (I)       | 3            |                                                                                                                               |                                    |
|                                                                                            | 熱力學(一)<br>Thermodynamics(I)            | 3            |                                                                                                                               |                                    |
|                                                                                            | 流體力學 Fluid Mechanics                   | 3            |                                                                                                                               |                                    |
|                                                                                            | 機械製造 Mechanical Manufacturing          | 3            |                                                                                                                               |                                    |
|                                                                                            | 機動學 Mechanism                          | 3            |                                                                                                                               |                                    |
|                                                                                            | 機械設計原理 Principles of Mechanical Design | 3            |                                                                                                                               |                                    |
| 彈性修讀：系上開設的必修或選修<br>Flexible courses: required or elective courses offered by ME department | -                                      | -            | 機械系<br>Department of Mechanical Engineering                                                                                   |                                    |
| 總學分(30 學分)<br>Total Credit (30 credits)                                                    |                                        | 30           | 機械跨域課程 Mechanical cross-disciplinary module                                                                                   |                                    |