國立中山大學機械與機電工程學系學士班結構圖

National Sun Yat-sen University, Department of Mechanical and Electro-Mechanical Engineering, Curriculum Structure for Undergraduate Program

- 98.4.14 系務會議通過第 1 次課程結構外審；
- 98.06.01 經 974 校課程委員會通過
- 101.3.21 經機電系 100-8 系務會議通過第 2 次課 程結構外審
- 104.3.25 經機電系 103-7 系務會議通過第 3 次課程結構外審
- 109.3.11 第 163 次教務會議通過 第 4 次課結構外審
- 111.05.03 110 學年度第 4 次校課程會議修訂通過
- 111.05.20 第 172 教務會議修訂通過
- 112.05.09 111 學年度第 4 次課程委員會會議修訂通過
- 112.05.24 第 176 教務會議修訂通過
- 113.05.07 112 學年度第 4 次校課程委員會會議審議通過
- 113.05.30 第 180 教務會議審議通過
- 114.3.12 113-10 系務會議通過第五次課程結構外審
- 114.04.24 113 學年度第 4 次校課程委員會會議審議通過
- 114.05.12 第 184 教務會議審議通過

通識教育 General Education (31~33)	語文素養 Languages（必修 6）、跨院選修 Inter-College Electives (8)、博雅課程 Liberal Arts (13)、體驗性課程 Practical Experience（必修 1）、運動與健康 Sport And Health (4)

專業必修 Professional Required Subjects (70)注2	大一 1 st Year (Freshmen)	微積分(一) Calculus(I)、工程電腦程式 Engineering Computer Programming、圖學 Graphics (2)、應用力學(一) Applied Mechanics (I) 微積分(二) Calculus(II)、普通物理(二) General Physics(II)、機電材料 Electro-Mechanical Materials、應用力學(二) Applied Mechanics(II)
	大二 2 nd Year (Sophomore)	工程數學（一）Engineering Mathematics(I)、電路學 Electric Circuit Theory、熱力學 Thermodynamics、精密機械製造 Precision Manufacturing Process、材料力學 Mechanics Of Materials 工程數學(二) Engineering Mathematics(II)、機動學 Mechanism、應用電子學 Applied Electronics、*微機電製程實務 Experiment Of Mems Fabrication Process (2)、流體力學 Fluid Mechanics
	大三 3 rd Year (Junior)	機械設計原理(一) Principles Of Machine Design(I)、自動控制 Automatic Control、電子電 路實驗 Electronics Laboratory (1)、*機械製造實驗 Mechanical Manufacture Laboratory (1)、熱傳學 Heat Transfer **機械設計原理(二) Mechanical Manufacture Laboratory(II)**注1、固力實驗 Material Testing Laboratory (1)、控制實驗 Control Laboratory (1)、熱流實驗 Thermalfluids Experiment (1)、機電實務專案 Project In Mechanical And Electromechanical Engineering (1)

專業選修（最少選修 24 學分）Professional Elective Subjects (Select at least 24 credits)	領域	共 同 Common	熱 流 Thermal-fluid Division	應 力 分 析 Mechanics Division	機 電 控 制 Control Division	設 計 製 造 Design And Manufacturing Division	微奈米 Micro-Nano Systems Division
	大一 1 st Year (Freshmen)	工程化學 Engineering Chemistry Python 程式語言 Python Programming Language	火災安全導論 Introduction To Fire Safety				奈米科技概論 Introduction To Nano Science And Technology 半導體製程導論 Introduction To Semiconductor Microfabrication Technology
	大二 2 nd Year (Sophomore)	工程倫理 Engineering Ethics 由創新申請專利 Patent Application Via Innovation	中等熱力學 Intermediate Thermodynamics				應用光學 Applied Optics

●	大三	機電實作專題研討(一) Special Topics In Mechanical And Electro-Mechanical Engineering (I) 機電實作專題研討(二) Special Topics In Mechanical And Electro-Mechanical Engineering (II) 創意思考與問題解決 Creative Thinking And Problem Solving 太空科技導論 Introduction To Space Technology	中等流體力學 Intermediate Fluid Mechanics 中等熱傳學 Intermediate Heat Transfer	固體力學導論 Introduction To Solid Mechanics 電子封裝簡介 Introduction Of Ic Packaging 機械設計原理(二) Principles Of Machine Design(II)	數位電子學 Digital Electronics 機電整合 Introduction To Mechatronics 感測與檢測 Instrumentation And Measurement	機械設計實務 Mechanical Design And Practice 設計、發明與專利 Design, Invention, And Patents 系統化工程設計概論 Introduction To Systematic Engineering Design 機械設計原理(二) Principles Of Machine Design(II)	近代物理 Modern Physics 微機電系統概論 Introduction To Microelectromechanical Systems
	大四	有限元素法概論 Introduction To Finite Element Method 工程統計學 Engineering Statistics 英文會議簡報與科技交流 Presentations In English And Technical Communication 工程日文(一) Engineering Japanese (I) 工程日文(二) Engineering Japanese (II)	內燃機 Internal Combustion Engines 空調工程 Air Conditioning Engineering 太陽能工程概論 To Solar Energy Engineering 綠色能源工程 Green Energy Science And Engineering 電腦輔助熱流工程分析 Computer Aided Thermal Fluid Engineering	有限元素法概論 Introduction To Finite Element Method 有限元素法應用 Applications Of The Finite Element Method 高等材料力學 Advanced Mechanics Of Materials 超音波檢測 Ultrasonic Testing 複合材料力學 (碩) Mechanics Of Composite Materials 計算結構力學 (碩) Computation Structural Mechanics	動態系統模擬與分析 Instrumentation And Measurement 工程統計學 Engineering Statistics 汽車學(2) Automotive Technology(2) 智慧製造聯網整合技術 Integration Of Smart Manufacturing And Networking Technology	創造性機構設計 Creative Mechanism Design 機械振動 Mechanical Vibration 自動化機構 Mechanisms for Automation 綠色創新設計 Green Innovative Design	工程問題之程式設計 Computer Programming On Engineering Problems 仿生創意設計與應用 Creative Design And Application Of Biomimetics 真空技術應用 Vacuum Technology and Applications

●(阿拉伯數字)為學分數，未標註學分者皆為 3 學分。標示*者「此為具潛在危險性課程，修課學生應注意課程學習安全，並請評估投保本校學生平安團體保險或其他商業保險。」
●本系最低畢業學分為 140 學分(含通識教育課程 31~33 學分、專業必修 70 學分、專業選修 24 學分)。
●112 學年度起入學新生，本系最低畢業學分為 137 學分(含通識教育課程 31~33 學分、專業必修 67 學分、專業選修 24 學分)。

●全英語組修課規定：本系專業必修應修習全英語課程(「機電實務專案」1學分除外)，及本系專業選修24學分中至少選修12學分全英語課程，專業必修課程第三次修習始可改修一般生之該課程。
注1：本課程如為112學年度起才入學之學生，由必修科目轉為選修科目。
注2：如為112學年度起才入學之學生，系專業必修降為67學分。

● **(Number symbol) is the number of credits,** all credits not indicated are 3 credits. Those marked with * means "This is a potentially dangerous course. Students taking the course should pay attention to the safety of course learning, and please evaluate and purchase the school's student safety group insurance or other commercial insurance."
● The minimum graduation credits for this department are 140 credits (including 31~33 credits of general education courses, 70 credits of professional required subjects, and 24 credits of professional elective subjects).
● For freshmen admitted in the 112th academic year, the minimum graduation credits of this department are 137 credits (including 31~33 credits of general education courses, 67 credits of professional required subjects, and 24 credits of professional elective subjects).
● Regulations for EMI course Bachelor program: students must take EMI courses in the department's required subjects (except for the 1-credit " Project In Mechanical And Electromechanical Engineering (1)"). Moreover, required subjects can be changed to Chinese courses starting from the third retake. Of the 24 credits of professional elective courses in this department, students must take at least 12 credits of courses taught in EMI course.

Note 1: For students entering in the 2023 academic year or later, this course has been changed from a required course to an elective course.
Note 2: For students entering in the 2023 academic year or later, the required credits for this major have been reduced to 67 credits.