

明志科技大學四技部112學年度入學 機械工程系精密機械組 課程總表

114/8/12 校課程委員會審議通過
114/8/1 院課程委員會審議通過
114/7/28 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 上/下限	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		
共同 (41學分)	基礎課程 22學分	全民國防教育軍事訓練(一)(二)	0	2	0	2														
		體育(一)(四)(Physical Education)	1	2	1	2	1	2	1	2										
		永續發展與社會實踐(Sustainable Development and Social Practice)	1	1																
		文學鑑賞與情意表達(Apreciation of Literature and Emotional Expression)	2	2																
		藝文涵養與社會參與(Art Literacy and Social Participation)			2	2														
		生活與職場英文(一)(二)(English for Life and Business)	3	3	3	3														
		英語聽講(一)(二)(Aural-Oral English)					1	2	1	2										
		英文實務(一)(二)(Practical English)													1	2	1	2		
		社會哲學領域(Social Philosophy)					3	3												「憲政與法治」、「歷史思辨」課程
		合 計	7	10	6	9	5	7	2	4	0	0	0	0	1	2	1	2		22
必修 (41學分)	核心課程 22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(一)(二)(Labor Education)	0	0.5	0	0.5														
		合 計	1	2.5	1	1.5	0	0	0	0	0	0	0	0	0	0	0	0		
	院系共同 課程 19學分	實習前職場素養訓練(Professionalism Prior to Curricular Practical Training)								1	1									
		多元學習模組(一)~(四)(Multimodal Learning Module)										16	160							「工讀實務實習」、「專業研究實習」
		合 計	0	0	0	0	0	0	0	1	1	16	160	0	0	0	0			
		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		13
	系專業必修 40學分	普通物理與實驗(General Physics with Laboratory)				3	4													
		普通化學(General Chemistry)				2	2													
		計算機程式與實習(Computer Programming and Practice)	3	3																
		電腦輔助機械製圖(Computer-Aided Mechanical Drawing)	3	3																
		靜力學(Statics)			2	2														
		動力學(Dynamics)					3	3												
		工程熱力學(一)(Engineering Thermodynamics I)					3	3												
		材料科學與實驗(Mechanics of Materials with Laboratory)					3	4												
		機械科學與工程實驗(Materials Science and Engineering Laboratory)							3	4										全英語授課English-taught course
		機械學(Mechanics of Machinery)							3	3										
選修 (應修畢至少46學分)	院專業選修 11學分	自動控制(一)(Automatic Control I)									3	3								
		流體力學(Fluid Mechanics)									3	3								
		專題製作(一)(二)(Special Project I, II)													1	3	1	3		
		機械元件設計(一)(Design of Machine Elements I)																		
		機械元件設計(二)(Design of Machine Elements II)																		
		工程倫理與專業實務講座(Lectures in Engineering Ethics and Practice)													1	2				
		合 計	6	6	7	8	9	10	6	7	6	6	0	0	5	8	1	3		40
	系專業選修 (開設100學分)	一、開課清單請參考「通識課程彙總表」。																		
		二、通識五類型課程「語言與全球化、人文藝術、社會研究與未來趨勢、自然科學與環境永續、自主學習」。																		
		任選四類型各修畢2學分且合計至少8學分。																		
		跨領域(頂石)專題(一)(Interdisciplinary capstone course(I))							1	3										跨領域專題Interdisciplinary capstone
		跨領域(頂石)專題(二)(Interdisciplinary capstone course(II))									1	3								跨領域專題Interdisciplinary capstone
		跨領域(頂石)專題(三)(Interdisciplinary capstone course(III))													1	3				跨領域專題Interdisciplinary capstone
		跨領域(頂石)專題(四)(Interdisciplinary capstone course(IV))															1	3		跨領域專題Interdisciplinary capstone
		科技英文閱讀與聽力訓練(一)(Technical English: Reading and Listening I)	0	1																榮譽學分學程課程Honors credit
		科技英文閱讀與聽力訓練(二)(Technical English: Reading and Listening II)			0	1														榮譽學分學程課程Honors credit
		科技英文閱讀與聽力訓練(三)(Technical English: Reading and Listening III)				0	1													榮譽學分學程課程Honors credit
選修 (應修畢至少46學分)	系專業選修 (開設100學分)	科技英文閱讀與聽力訓練(四)(Technical English: Reading and Listening IV)					0	1												榮譽學分學程課程Honors credit
		科技英文閱讀與聽力訓練(五)(Technical English: Reading and Listening V)								1	1									榮譽學分學程課程Honors credit
		科技英文簡報與表達(Scientific Presentation in English)													2	2				榮譽學分學程課程Honors credit
		特色專題(一)(Senior Capstone Project(I))													2	4				榮譽學分學程課程Honors credit
		特色專題(二)(Senior Capstone Project(II))																		榮譽學分學程課程Honors credit
		合 計	0	1	0	1	0	1	1	4	2	4	0	0	5	9	3	7		11
	系專業選修 (開設100學分)	數控工具機與實習(Practice in CNC Machine)			3	3														模組(Module) A
		電機學與實驗(Electric Machinery with Laboratory)					3	4												模組(Module) A
		電腦輔助設計(一)(Computer-Aided Design I)					3	3												模組(Module) A、D
		電腦輔助設計(二)(Computer-Aided Design II)							3	3										模組(Module) A、D
		模具設計與製造(Design and Manufacture of Mould)									3	3								模組(Module) A、B
		製造學(Manufacturing Principles)									3	3								模組(Module) A、B
		精密加工(Precision Machining)									3	3								模組(Module) A、B、D
		熱流工程實務(Thermal-Fluid Engineering Practice)													3	3				模組(Module) A
		人工智慧概論(Introduction to Artificial Intelligence)	2	2																模組(Module) B
		人工智慧物聯網概論(Introduction to Artificial Intelligence & Internet of Things)					2	2												模組(Module) B、B1、B2、B3、B4、B5、B6、B7、B8、B9、B10、B11、B12、B13、B14、B15、B16、B17、B18、B19、B20、B21、B22、B23、B24、B25、B26、B27、B28、B29、B30、B31、B32、B33、B34、B35、B36、B37、B38、B39、B40、B41、B42、B43、B44、B45、B46、B47、B48、B49、B50、B51、B52、B53、B54、B55、B56、B57、B58、B59、B60、B61、B62、B63、B64、B65、B66、B67、B68、B69、B70、B71、B72、B73、B74、B75、B76、B77、B78、B79、B80、B81、B82、B83、B84、B85、B86、B87、B88、B89、B90、B91、B92、B93、B94、B95、B96、B97、B98、B99、B100

- 畢業最少應修 148 學分。
- 三上必修「實習前職場素養訓練」，三下必修「多元學習模組(一)~(四)」，共7學分。
- 每學期選課上限為 27 學分，大一至大二選課下限為 16 學分，大三、四選課下限為9學分。
- 三上課程採取選課方式（第一週授課時數二小時的課程變更為一週授課四小時）授課。
- 必修應修(二) 體育(四)，於大二至大四，按興趣選課教學。
- 學生應修畢一個跨領域學程或是第二專長學程，始得畢業。若選修院專業必修「跨領域專題課程」，可申請替代專業必修之「專題製作」課程。
- 最低畢業學分認定：修畢第二專長學分學程/跨領域學分學程者；最低畢業學分結構調整為共同必修41學分，通識選修至少 8 學分(五類型，任選四類各 2 學分)，院專業必修13學分，系專業必修40學分，專業選修任選至少46學分，合計148學分；已修畢之第二專長學分學程/跨領域學分學程外系學分，採計為系專業選修學分。
- 系專業選修分為精密機械核心課程模組(模組A)、智慧製造跨領域學分學程(模組B)、機械設計課程模組(模組C)、3D列印課程模組(模組D)。其中精密機械核心課程模組(模組A)至少需修習6門課程，其他模組任選。修習機械系其他兩班之專業選修，最多6學分，採計為專業選修學分。
- 修習本系榮譽學程學生，「特色專題(一)(二)」，「科技英文簡報與表達」和「科技英文閱讀與聽力訓練(一)~(五)」為必修，但英文成績達標者(700分)可免修「科技英文閱讀與聽力訓練(一)~(五)」。
- 依大學部學則規定畢業應通過系專業能力畢業門檻，詳細請見「機械工程系專業能力畢業門檻及輔導要點」。
- Students must obtain at least 148 credits before graduating.
- Students must take "Professional Prior to Practical Training" in the first semester of the third year, and "Multimodal Learning Module" in the second semester, totaling 17 credits.
- For each semester, courses taken may not exceed 27 credits. Freshmen (1st year) and sophomores (2nd year) must take courses with at least 16 credits. Juniors (3rd year) and seniors (4th year) must take courses with at least 9 credits.
- During the first semester of the third year, study period will be condensed (lectures that originally took 3 hours a week will be extended to 4 hours a week).
- The elective courses "Physical Education III" and "Physical Education IV" are offered based on students' interests from sophomore to senior.
- Students must complete either an interdisciplinary program or a second-specialization program as one of the graduation requirements. If taking the "Interdisciplinary capstone course" from college's elective courses, students can apply to replace the "Special Projects" from Department Professional Compulsory courses.
- Minimum Graduation Credits Requirement: For students who have completed the second major credit program/interdisciplinary credit program, the minimum graduation credit structure is adjusted as follows: 41 credits from common compulsory courses, at least 8 credits from general education elective courses (from five categories, selecting any four categories, 2 credits each), 13 credits from college compulsory courses, 40 credits from department compulsory courses, and at least 46 credits from department elective courses, making 148 credits in total. Credits obtained from the interdisciplinary or the second-specialization program will be counted as credits from department elective courses.
- The department's elective courses are divided into the following modules: Precision Machinery Core Courses Module (Module A), Smart Manufacturing Interdisciplinary Credit Program (Module B), Mechanical Design Courses Module (Module C), and 3D Printing Courses Module (Module D). Among these, at least 6 credits must be taken from the Precision Machinery Core Courses Module (Module A), while the other modules can be chosen freely. A maximum of 6 credits from the professional electives of other classes within the Mechanical Engineering Department can be counted as professional elective credits.
- Honor program students who enroll to this department must take the following courses as mandatory courses: "Senior Capstone Project I・II", "Scientific Presentation in English", and "Technical English: Reading and Listening I-V." Those who have gained TOEIC score of 700 or more may skip "Technical English: Reading and Listening I-V."
- According to "Academic Regulations for Undergraduate Studies," students must pass the department's professional competency threshold. For details, please refer to "Graduation Requirements for Professional Ability and Guidelines for Students in Department of Mechanical Engineering."