

南開科技大學 112學年度入學 科技學院 車輛工程系 日間部四技 課程總表
Nankai University of Technology Course Catalog for the 112th Academic Year, College of Science and Technology, Department of Vehicle Engineering, Daytime Division, Four-Year Program

類別 Class		一年級(112) First Year				二年級(113) Second Year				三年級(114) Third Year				四年級(115) Fourth year											
		科目 Subjects		一上 AY(1) Fall		一下 AY(1) Spring		科目 Subjects		二上 AY(2) Fall		二下 AY(2) Spring		科目 Subjects		三上 AY(3) Fall		三下 AY(3) Spring		科目 科目		四上 AY(4) Fall		四下 AY(4) Spring	
				學分 Credits	時數 Credit Hours	學分 Credits	時數 Credit Hours			學分 Credits	時數 Credit Hours	學分 Credits	時數 Credit Hours			學分 Credits	時數 Credit Hours	學分 Credits	時數 Credit Hours						
基本能力課程 Core Capabilities Courses		英文(一)(二) English(1)(2)	2	2	2	2	職場英語 Workplace English			2	2														
		中國文學欣賞與習作(一)(二) Appreciation and Practice of Chinese Literature(1)(2)	2	2	2	2																			
		服務學習(一)(二) Service Learning(1)(2)	0	1	0	1																			
		體育(一)(二) Physical Education (1)(2)	2	2	2	2																			
		勞作教育(一)(二) Labor Education(1)(2)	0	1	0	1																			
		小計 Subtotal Credits	6	8	6	8	小計 Subtotal Credits			2	2														
分類通識 General Education Requirements		○國際視野與永續發展 ○International Perspective and Sustainable Development	2	2			○身心健康 ○Physical and Mental Health	2	2			○分類通識微學分(一)(二) ○General Education (1)(2)	1	*	1	*									
		○人文素養 ○Humanities Literacy	2	2			○性別平權與社會關懷 ○Gender Equality and Social Care			2	2														
		○資訊科技 ○Information Technology			2	2																			
		○禮節與倫理 ○Etiquette and Ethics			2	2																			
		小計 Subtotal Credits	4	4	0	0	小計 Subtotal Credits	2	2	2	2	小計 Subtotal Credits	1	0	1	0									
系專業必修 Departmental Required Courses		工程力學 Engineering Mechanics-Statics	3	3			汽車先進底盤系統檢修實習 Advanced Automotive Chassis Troubleshooting and Practice	3	4			實務專題(一)(二) Practice Topics (I)(II)	2	3	2	3									
		先進車輛科技概論 Introduction to Advanced Automotive Technology	2	2			柴油引擎故障排除檢修實習 Diesel Engine Troubleshooting Overhaul Practice	3	4			汽車遠端電腦診斷技術實務 Vehicle Remote Diagnosis System and Inspection Technology	3	4											
		汽車保養與引擎檢修實習 Vehicle Maintance and Egin Repair Service Practice	3	4			電動車與複合動力車原理 Introduction to Electric and Hybrid Vehicles	2	2			電腦輔助繪圖實務 Computer-Aided Draw Practice	3	4											
		微積分 Calculus			3	3	汽車綜合診斷與故障排除 Comprehensive Diagnosis and Troubleshooting of Automobile			3	4	電動車與複合動力車實務 Electric Vehicles and Hybrid Vehicles Practice			3	4									
		機構學 Mechanism			3	3	車輛感測器檢修技術實務 Vehicle Sensors Inspections and Repair Practice			3	4														
		汽車電系診斷檢修實習 Automotive Electrical System Diagnosis and Repair			3	4	車輛系統微處理機程式實習 Microprocessor Program Practice in Automotive Application			3	4														
							電動車機電整合概論 Mechatronics of Electrical Vehicle			2	2														
		小計 Subtotal Credits	8	9	9	10	小計 Subtotal Credits	8	10	11	14	小計 Subtotal Credits	8	11	5	7									
	車輛專業模 組 Vehicle Professional Modules	計算機應用 Computer Applications	3	3			汽車電子電路 Automotive electronic circuits	3	3			內燃機 Internal Combustion Engine	3	3			車輛控制系統 Vehicle Control System	3	3						
		動力機械概論 Introduction to Power Machinery			3	3	工程數學 Engineering Mathematics	3	3			汽車物料管理與汽車修護廠零件作業 Automotive Materials Management Operations and Automotive Repair Plant Parts			2	2	車輛專業英文 Professional Autotmotive English	2	2						
		車輛工程與原理 Vehicle Engineering and Principle			2	2	動力學 Engineering Mechanics Dynamics			3	3	汽車動態性能檢測與分析實務 Measurement and Analysis of Automotive Dynamic Performance			3	4	熱流學 Applied Thermofluids	3	3						
		計算機程式 Computer Programming			3	3	車輛行銷與服務廠作業實務 Automobile Marketing and Maintenance Service Operation			2	2						車輛零件加工技術 Automobile Parts Machining and Processing Technique				3	3			
																		汽車生產品質管理 Automobile Production Quality Management				3	3		
																		精密量具與檢測技術 Metrology Practice				3	3		

專業選修 Department al Elective Courses	檢修實務模 組 Maintenance Practice Modules	汽車基礎電學與實習 Automobile Fundamental Electricity and Practice	3	4			暑期實習(一) Summer Practice (1)	2	*			暑期實習(二) Summer Practice (2)	2	*			學期實習(一)(二) Semester Internship (I) (II)	9	*	9	*
							汽車構造保養與駕駛 Automobile Construction, Maintenance and Driving	2	2			燃料噴射系統 Fuel Injection System	2	2			汽車排放管制與控制 Automotive Emission Regulation and Control			3	3
							安全駕駛原理及方法 Safety Driving Principle and Method			2	2	商用車綜合技術 Comprehensive Technology for Commercial Vehicles	3	4							
												車身塗裝與車身技術 Automobile Body Painting and Repairing Technique	3	3							
												先進車輛車身電系與空調診斷實務 Advanced Vehicle Body Electrical System and Air Conditioning Diagnosis Practice			3	4					
												先進車輛綜合技術 Advanced Vehicle Comprehensive Technology			3	4					
	綠能智慧模 組 Intelligent Green Energy Modules						電機學 Fundamentals of Electrical Engineering	3	3			車載資通訊技術概論 Introduction to vehicle telematics technology			3	3	電動車動力與控制系統實務技術 Practical Technology of Electric Vehicle Power and Control System	3	3		
							APP程式應用 The Application of APP Programming			3	3						車輛通訊與行控技術 Vehicle Communication and Control Technology			3	3
							馬達原理與控制 Fundamentals of Motors and Control			3	3						福祉載具設計 Design of Welfare Vehicle	3	3		
							電動車電能系統概論 Introduction to Electrical Energy System of Electric Vehicle			2	2						車聯網技術應用 Vehicle to Everything Technology Application	3	3		
		小計 Subtotal Credits	6	7	8	8	小計 Subtotal Credits	13	11	15	15	小計 Subtotal Credits	13	12	14	17	小計 Subtotal Credits	26	17	24	15
其他選修 Other Elective Courses		全民國防教育軍事訓練(一)(二) National Defense Educaiton (1)(2)	2	2	2	2	全民國防教育軍事訓練(三)(五) National Defense Educaiton (3)(5)	2	2	2	2	英檢證照實務 English Proficiency Test Preparation	0	2	0	2					
		大學社會責任 University Social Responsibility			2	2	運動(項目) Sports(Item)	2	2	2	2	生命教育 Life Education	2	2							
							智慧財產權 Intellectual Property Rights	2	2			實用日語 Practical Japanese	2	2							
							實用英語 Practical English			2	2	職涯分析與發展 Analysis of Career Development	1	1							
							人工智慧與物聯網概論 Introduction of AI and IoT			2	2										
		小計 Subtotal Credits	8	9	12	12	小計 Subtotal Credits	19	17	23	23	小計 Subtotal Credits	18	19	0	2					
		合計 Total Credits	24	28	23	26	合計 Total Credits	23	23	30	33	合計 Total Credits	22	23	20	24	合計 Total Credits	26	17	24	15

附註：
Note:

1.表112學年度日間部四技入學新生適用。
1. This curriculum is applicable to students of Daytime Division of the four-year technical program admitted for the academic year 2023.

2.最低畢業總學分為128學分，其中基本能力課程必修14學分、分類通識課程必修12學分、專業必修49學分、其餘53學分為選修學分。非本系所開科目及非本學院共同科目之選修學分，至多承認16學分為畢業學分。
2. The minimum credits for graduation is 128. This includes 26 credits courses required by the university and general education courses, “49” credits for department required courses, and the remaining “53” credits for elective credits. A maximum of 16 credits of elective credits from non-departmental and non-college elective courses will be recognized as graduation credits.

3.分類通識課程中「○」只需修習12學分，超出學分可認列為其他選修。分類通識微學分(一)(二)，學時為「*」詳見本校微學分課程實施要點。修讀微學分課程累計達20小時，列計為1學分。
3.A total of 12 credits must be taken for “○” credits of categorized general education courses are required, and any excess credits may be recognized as other electives. For categorized general education micro-credits (I)(II), the instruction hours are denoted by “*”. Please refer to the specific guidelines for micro-credits courses at the university. For every accumulation of 20 instruction hours in micro-credits courses, it will be counted as 1 credit.of micro-credit courses will be counted as 1 credit.

4.「先進車輛科技概論」(2學分)、「綠色能源概論」(2學分)、「自動化科技概論」(2學分)、「創意設計與方法」(2學分)等4個科目為本學院共同科目，本系學生上述4個科目均為必修，分別為2學分2學時，本系學生上述4個科目均為必修，部分科目須至院內他系修課，修習及格之科目，列計為畢業選修學分。
4. “Introduction to Advanced Vehicle Technology” (2 credits), “Introduction to Green Energy” (2 credits), “Introduction to Automation Technology” (2 credits), and “Creative Design and Methodology” (2 credits) are common subjects in the College. Students of the department are required to take the above four subjects for 2 credits and 2 credit hours respectively. For some courses, students may need to take them in other departments within the college. Those courses that are completed will be counted as elective credits for graduation.

5.可至外系修讀相關課程，選讀外系課程需經本系主任與修讀外系課程主任同意。
5. Taking related courses offered by other departments is subject to approval by the department chair and the chairs of departments whose courses are selected.

6.校外實習類課程，學時為「*」(暑期實習、產業實習、學期實習、海外實習及其他校外實習型態)詳見本校學生校外實習辦法。校外實習類課程總學分數至多採認18學分為畢業學分，超過18學分時，其超過部分不認列為畢業學分。
6.Off-Campus Internship-Related Courses (Summer Internship, Enterprise Internship, Semester-Based Internship, Overseas Internship, and other off-campus internship types) will be counted as 18 graduation credits. The excess will not be recognized.

7. IEEE：I(Information)-資訊應用能力(系科)； E(Expertise)-專業應用能力(系科)； E(English)-英語應用能力(外語中心)； E(Ethics)-倫理素養(系科)。畢業前必須符合本系訂定IEEE學生基本能力指標之要求。
7. IEEE includes I (Information) - Information Application Competence (Department); E (Expertise) - Professional Application Competence (Department); E (English) - English Language Application Competence (Foreign Language Center); E (Ethics) - Ethical Competence (Department). Before graduation, students must meet the requirements of the IEEE Student Competence Index set by the department.

8.學生選修全民國防軍事訓練為其他選修的學分數，系科最多採計4學分為畢業學分。
8. Students who choose to take National Defense Military Training course as other elective credits can count a maximum of 4 credits for graduation in their department.

9.學生選修運動(項目)為其他選修的學分數，系科最多採計2學分為畢業學分。
9. Students who choose to take sports (specific items) course as other elective credits can count a maximum of 2 credits for graduation in their department.