南開科技大學　113學年度入學　科技學院 電機與資訊技術系系　日間部四技　課程總表
Nankai University of Technology Course Catalog for the 113th Academic Year, College of Science and Technology, Department of Electrical and Information Techology, Daytime Division, Four-Year Program

類別 Class	一年級(113) First Year 科目 Subjects	一上 Fall 學分 Credits	一上 時數 Hours	一下 Spring 學分 Credits	一下 時數 Hours	二年級(114) Second Year 科目 Subjects	二上 Fall 學分 Credits	二上 時數 Hours	二下 Spring 學分 Credits	二下 時數 Hours	三年級(115) Third Year 科目 Subjects	三上 Fall 學分 Credits	三上 時數 Hours	三下 Spring 學分 Credits	三下 時數 Hours	四年級(116) Fourth year 科目 Subjects	四上 Fall 學分 Credits	四上 時數 Hours	四下 Spring 學分 Credits	四下 時數 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															
	體育(一)(二) Physical Education (1) (2)	2	2	2	2															
	永續環境與勞作教育(一)(二) Sustainable Environment and Labor Education(1)(2)	0	1	0	1															
	小計 Subtotal	6	7	6	7	小計 Subtotal			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	4	4	4	4	小計 Subtotal	2	2	2	2	小計 Subtotal	1	0	1	0					
系專業必修 Departmental Required Courses	室內配線實習(一) Practice of Indoor Wiring (1)	3	4			綠色能源概論 Introduction to Green Energy	2	2			程式設計(一) Computer Programming (1)	3	3							
	電工數學(一) Electrical Mathematics (1)	3	3			邏輯設計 Logical Design	3	3			可程式控制實習(一) Programmable Logic Control Design and Practice(1)	3	4							
	電路學(一)(二) Circuit Analysis (1)(2)	3	3	3	3	電子學(一) Electronics(1)	3	3			實務專題(一)(二) Business Practice (1)(2)	2	3	2	3					
	電腦繪圖 Computer Graphics			3	3	電機機械(一)(二) Electric Machinery (1)(2)	3	3	3	3	電力電子學 Power Electronics			3	3					
						創意設計與方法 Creative Design and Methodology			2	2										
						微處理機與實習(一) Microprocessor and Internship(1)			3	4										
	小計 Subtotal	9	10	6	6	小計 Subtotal	11	11	8	9	小計 Subtotal	8	10	5	6					
專業選修 Departmental Elective Courses	電腦軟體應用實務 Practice of Computer Software Application	3	3			電氣安全 Electric Safety	2	2			感測與轉換器 Basic Principle of Sensor and Transducer	3	3			氣壓應用實務 Pneumatic application practice			3	3
	基礎python Basic Python	3	3			室內配線實習(三) Practice of Indoor Wiring (3)	3	4			影像與剪輯 Video and editing	2	2			電能監控系統 Designing and Application of Web Based Supervisory Control			3	3
	計算機概論 Introduction to Computer Science	3	3			用電設備檢驗實習 The Internship of Electrical Equipment	3	3			節約能源技術 Technology of Energy Saving	3	3			電腦輔助電路分析 Computer Aided Circuit Analysis			3	4
	工業配線實習(一)(二) Practice of Industrial Wiring (1)(2)	3	4	3	4	邏輯設計實習 Logical Design and Practice	3	3			3D繪圖實務 3D Drawing Practice	3	3			數位電子實習 Digital Electronics Practice			3	3
	進階python Advanced Python			3	3	APP基礎設計 Foundation of App Design	3	3			太陽光電實務 Solar photovoltaic practice	3	3			儀表電子實習 Instrument Electronics Practice			3	3
	網頁設計 Web Page Design			3	3	電動車概論 Introduction to Electric Vehicles	3	3			馬達控制 Motor Control	3	3			電子商務 Electronic Commerce			3	3
	配電系統 Electric power distribution system			3	3	暑期實習(一) Summer Practice (1)	2	*			暑期實習(二) Summer Practice (2)	2	*			控制系統 Automatic Control System			3	3
	電工數學(二) Electrical Mathematics (2)			3	3	資訊應用實務(一)(二) Practice of Information Application (1)(2)	3	3	3	3	微處理機與實習(二) Microprocessor and Internship(2)	3	4			暑期實習(三) Summer Practice (3)			2	*
	室內配線實習(二) Practice of Indoor Wiring (2)			3	4	變壓器裝修實習(一)(二) Practice on Transformer Installation and Repair(1)(2)	2	2	2	2	基礎升降機控制 Basic lift control	3	3			工業配線實習(三) Practice of Industrial Wiring (3)			3	4
						電機機械實習(一)(二) Experiment of Electric Machine (1)(2)	2	3	2	3	進階升降機控制 Advanced lift control			3	3	印刷電路板設計實習 Printed Circuit Board Design and Practice			2	3
						電子學實習(一)(二) Electronics Experiment(1)(2)	3	3	3	3	可程式控制實習(二) Programmable Logic Control Design and Practice(2)			3	4	電力系統 Power System			3	3
						電子學(二) Electronics(2)			3	3	馬達設計 Motor Design			3	3	學期實習(一) Semester Internship(1)			9	*

課程名稱					課程名稱					課程名稱				
水電實務 Electrician Practice			3	4	程式設計(二) Computer Programming (2)			3	3	機電整合實務 Mechatronic System Practice			3	3
信號與系統 Signals & Systems			3	3	動態系統模擬 Dynamic System Simulation			3	3	動態網頁設計 Dynamic Website Design			3	3
人機互動介面設計 Human-computer interaction interface design			3	3	VHDL實務 Practice and Design of VHDL			3	4	網路行銷 Internet Marketing			3	3
工業電子學與實習 Industrial Electronics and Practice			3	3	AI概論 Introduction to AI			3	3	照明應用與設計 Lighting Design and Application			3	3
電動車動力系統 Electric vehicle power system			3	3	線性電子電路 Linear integrated circuits			3	3	生涯規劃 Life-Career Planning			3	3
					車用電池技術 Automotive battery technology			3	3	學期實習(二) Semester Internship(2)			9	*
					電機實務設計 Design of Distribution Power System			3	3					
					太陽光電系統設計 Solar photovoltaic system design			3	3					
					電力電子學實習 Experiment of Power Electronics			3	3					
小計 Subtotal	6	7	6	7	小計 Subtotal	7	7	6	7	小計 Subtotal	6	6	6	6	小計 Subtotal	9	9	9	9

其他選修 Other Elective Courses	課程名稱					課程名稱					課程名稱				
	全民國防教育軍事訓練(一)(二) National Defense Education (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
	服務學習(一)(二) Service Learning(1)(2)	0	1	0	1	運動健康促進課程 Sports Health Promotin Course	2	2	2	2	生命教育 Life Education	2	2		
	基礎華語 Based Mandarin	2	2			智慧財產權 Intellectual Property Rights	2	2			實用日語 Practical Japanese	2	2		
	進階華語(一)(二) Advanced Mandarin(1)(2)	2	2	2	2	實用英語 Practical English			2	2	職涯分析與發展 Analysis of Career Development	1	1		
	大學社會責任 University Social Responsibility			2	2	人工智慧與物聯網概論 Introduction of AI and IoT			2	2					
	小計 Subtotal	6	7	6	7	小計 Subtotal	6	6	8	8	小計 Subtotal	5	7	0	2
	合計 Total	25	28	22	24	合計 Total	20	20	18	20	合計 Total	15	16	12	12	合計 Total	9	9	9	9

附註：
Note:
1.表113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 2024.
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47學分、其餘55學分為選修學分。非本系所開科目及非院共同選修科目之選修學分數，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, "47" credits for department required courses, and the remaining "55" 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個科目均為必選修，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 in this department are required to take all four of these subjects. Some subjects may need to be taken in other departments within the college. Successfully completing and passing these subjects 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類型態)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.
10.本表業經課程委員會(113.03.25)、學院課程委員會(113.04.02)、校課程委員會 (113.06.24)審議通過。
10.This curriculum list has been reviewed and approved by the Department Curriculum Committee (2024.03.25), College Curriculum Committee (2024.04.02), and University Curriculum Committee (2024.06.24).