資訊工程系 四技 110 學年度入學課程結構規劃表

2021 Curricula for the Day School (4-year College Program) in Department of Computer Science and Information Engineering

			一年級 1st Academic Year			二年級 2 nd Academic Year			三年絲	三年級 3 rd Academic Year				四年級 4th Academic Year									
	課程類別			第一學	第一學期		期	第一學	期		第二學期		第一學類	期	第二學期]	第一學期]	第二學期		
				Semester	1	Semester		Semeste			Semester		Semester 1		Semest			Semeste	er 1		Semeste		
Course Category					學分數 Credits	宇 課程名稱 Course Name	學分數 Credits	· 課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	課程名稱 Course Name	學分數 Credits	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours	課程名稱 Course Name	學分數 Credits	時數 Hours
校共同必修課程 University-wide Common Core Requirements 應修學分數 12學分			大學國語文 Chinese Language and Literature	2 2	實務應用文	2 2		ÿ.			•				92						92		
			English (1)	2 2	English (2)	2 2	English (3)	2	2	實用英文 (四) Practical English (4)	2 2												
(12 credits)		Education (1) 服務教育(一)	0 2	Education (2) 服務教育(二)	0 2	體育(三) Physical Education (3)	0	2	體育(四) Physical Education (4)	0 2													
	海洋科技與文明發					Service (2)	0 2																Ц
	通識 Core General	展 Marine Technology and Civilization Development	應修學分數 至少6學分 (每領域必 修1門) (min. required: 6 credits 1 required course	核心 (一) 海洋 Core (I) Marine 核心 (一) 海洋 Core (I) Develo	Techr 文明發	nology Explorati 養展/2/2																	
		生命探索與在地關		核心 (二) 生命與倫理/2/2																			
		限 Exploration of Life		Core (II) Life and Ethics / 2 / 2 核心 (二) 在地文化探源/2/2																			
		and Local Care 創意創新與數位知		Core (II) Exploration of Local Culture / 2 / 2																			
通識		能	in each field)		核心 (三) 創意與創新/2/2 Core (III) Creativity and Innovation / 2 / 2																		
課程		Creative Innovation and Digital Literacy		核心 (三) 運算與程式設計/2/2 Core (III) Computing and Programming/ 2 / 2																			
General Education Courses	博雅	美感與人文素養 Aesthetic Appreciation and Cultural Literacy	10 學分	博雅通識/學分 Course Name/C																			
	通識	科技與環境永續 Technology and	(5大課群至 少任選3課		數/時	數																	
	Liberal Curriculum	Environmental Sustainability	群) (min. required:	Course Name/C	redits/	/Hours																	
	Domains	ins 社會與知識經濟 Society and Knowledge Economy	10 credits Select at least 3 course	t 博雅通識/學分 Course Name/C	數/時 redits/	數 /Hours																	
		Lectionity	1	l .																			

				1				•		•				
			一年級 1st	Academic Year	二年級 25	d Academic Year	三年級 3rd	Academic Year	四年級 4th	Academic Year				
				第一學期	第二學期	第一學期	第二學期	第一學期	第二學期	第一學期	第二學期			
		果程類別		Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2			
				課程名稱 Course Name Po 數 Credits	課程名稱 Fy a Credits Course Name	等数 Hours 課程名稱 Course Name	學分數 Credits 學分數 Credits	課程名稱 Phours White Property of the pay Hours Read Property of the pay Hours Read Property of the pay Hours	課程名稱 Course Name P分數 Credits	學分數 课程名稱 Course Name Course Name	學分數 Credits 課程名稱 Course Name			
		歷史與多元思維 History and Diversity of Thought		博雅通識/學分數/時數 Course Name/Credits/										
			博雅通識/學分數/時數 Course Name/Credits/Hours											
		跨課群認列 Cross- Disciplinary Recognition		通識微學分(一)1 General Education Microcredits(1)1、通識微學分(二)1 General Education Microcredits(2)1										
學院共同		<u> </u>												
課程 (由學院開 課) College Common Courses	課程 由學院開 Elective 工程實作實習/3/3Engineering Practice3/3													
學院跨領域 課程 (由學院開 課) College Interdisciplinary Courses		選修 Elective		robotics/2/2、虚拟技應用專論/3/3 Industry/3/3、機; /3/3Semiconducto Hands-on Trainin	疑實境互動實務 Topics on Applio 光電半導體封測 or Manufacturing g in Semiconduc niconductor Proc	/1/3The Practice of Cations of Smart /3/3Mechantronic Process and Equipotor Manufacturing Elessing Equipment	機器人程式編程f Virtual Reality In Technology/3/3、and Optoelectronsoments: Vacuum Teg Process and Equ/3/3、半導體設備	teraction/1/3、3D 車用電子應用及 ic semiconductor echnology and Pra ipments/3/3、半等	列印實務/1/33E 實務/3/3Special packaging and te ctice/3/3、半導覺 夢體設備基礎技績	D Printing and Prace Topics for Autor est/3/3、半導體設 遭製程設備實務培 走實務/3/3Fundan	stice/1/3、智慧科 motive Electronic 備真空系統實務 and and and and and and and and and and			
系專業 課程	必修	N 1 CC	必修 應修學分數 53 Number of Courses Needed/	數位邏輯 設計 Digital Logic Design	Architectur e	物件導向 程式設計 Object- oriented Programm ing	線性代數 Linear Algebra 3 3	演算法 Algorithm 3 3	實務專題 (二) Special Topics (2)					
Departmental Professional Courses	Required	Credits Need		微積分(一) Calculus (1) 3 3	網際網路 暨應用 Internet and Its Applicatio ns	資料結構 3 Data 3 3 Structures	計算機網 路 Computer Networks	作業系統 Operating 3 3 Systems						

	一年級 1st Acade	emic Year	二年級 2 nd	Academic Year	三年級 3rd	Academic Year	四年級 4th Academic Year			
		第二學期	第一學期	第二學期	第一學期	第二學期	第一學期	第二學期		
課程類別 Course Category	學	Semester 2 學分數 Credits Name	Semester 1 學分數 Course Name Credits	Semester 2 學分數 Course Name	Semester 1 課程名稱 字分數 Credits Course Name	Semester 2 課程名稱 Course Name	Semester 1 學分數 Course Name Credits	Semester 2 學分數 Course Name Course Name		
	計算機程 式設計 Computer Programmi ng 計算機概 論 Foundation 3 3	数積分 (二) alculus 3 3 (2)	離散數學 Discrete Mathemati cs 3 3	機率與統 計 Probabilit y and Statistics 微處理機 Microproc 3 3	資料庫 Database Systems 3 3	53	\$	\$ 1		
	of Computer Science 計算機程式設計實習		物件導向程式設置	essor 計實習/2/3	Special Topics (1) 網際網路協定/3/3	<u> </u>	高速網路/3/3			
	Computer Programmin	$n_{\rm G}/2/3$	Object-Oriented P Design Practice/2/	rogrammıng	Internet Protocols/		High-Speed Networks/3/3			
	數位邏輯設計實習/2/ Digital Logic Design F	Proctice/2/3	微處理機實習/2/3 Practice on microp programming/2/3	rocector	數位信號處理/3/3 Digital Signal Prod		生物資訊資料庫/3/3 Biomedical Databases/3/3			
	多媒體程式設計/3/3		工程數學/3/3		資料壓縮/3/3		影像壓縮/3/3			
a	Multimedia Programm 互動式網頁程式設計。 Design and Implement Interactive Web Servic	tation of	Engineering Math 資料結構實務/3/3 Data Structures Pr	3	Data Compression 電腦圖學概論/3/3 Introduction To Co Graphics/3/3	3	Image Compression/3/3 語音壓縮/3/3 Speech Compression/3/3			
Number of Courses Needed/ Credits Needed47	資訊工程概論/3/3 Introduction for Inforn Engineering/3/3	nation	系統程式/3/3 Systems programn		硬體描述語言設言		電腦遊戲設計實務/3/3 n Computer Games Programming Project/3/3			
	數位電子學/3/3 Digital Electronics/3/3	3	通訊系統概論/3/3 Introduction To Co Systems/3/3	ommunication	數值分析/3/3 Numerical Analysi	is/3/3	虛擬實境/3/3 Virtual Reality Systems/3/3			
	組合語言程式設計/3/ The Programming Des Assembly Languages/3	sign of I	網路程式設計實程 Internet Program I Project/3/3	Dogion	嵌入式系統/3/3 Embedded System	.s/3/3	資訊安全/3/3 Information Security/3/3			
	物理(一)/3/3 Physics(1)/3/3	Ž.	視窗程式設計/3/3 Window Program		網路資料庫程式 Internet Database Design/3/3		分散式系統/3/3 Distributed Systems/3/3			

	1		T		1		1		
	一年級 1st A	Academic Year	二年級 2 nd	Academic Year	三年級 3rd	Academic Year	四年級 4th Academic Year		
	第一學期	第二學期	第一學期	第二學期	第一學期	第二學期	第一學期	第二學期	
課程類別	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	
Course Category	課程名稱 Course Name Credits 要分數 Credits	Semester 2 課程名稱 Course Name Credits	課程名稱 Course Name 以来 Credits	學分數 Credits Ware Name Course Name	課程名稱 Course Name P分數 Credits	課程名稱 Course Name F數 Credits	課程名稱 P分數 Credits F數 Hours	課程名稱 Course Name 學分數 Credits	
	物理(二)/3/3/				生物資訊概論/3/3	3	多媒體資料庫/3/3		
	Physics(2) /3/3				Introduction to Bio	oinformatics/3/3	Multi-Media Data	Base/3/3	
	物理實驗(一)/1/3				無線網路/3/3		程式語言/3/3		
	Physics Experimer	nt (1) /1/3			Wireless Network		Programming Lar	nguage/3/3	
	物理實驗(二)/1/3				計算分子生物學/		資料探勘/3/3		
	Physics Experimer	nt (2)/1/3			Computational Mo Biology/3/3		Data Mining/3/3		
					數位影像處理/3/3		網路安全/3/3		
					Digital Image Pro		Network Security	/3/3	
					三維電腦圖學/3/3		行動計算/3/3		
					Three-dimensiona Graphics/3/3	I Computer	Mobility Computing/3/3		
					語音信號處理/3/3		平行處理/3/3		
				Speech Signal Pro	•	Parallel Processing/3/3			
					動畫程式設計實施		多媒體網路通訊		
					Computer Animati		Multimedia Netw		
					Programming Proj 資訊理論/3/3	ect/3/3	Communication/3 數位視訊處理/3/		
					貝訊理論/3/3 Information Theor	n /2 /2	數位稅訊處理/3/ Digital Video Pro		
					Information Theor Linux 系統/3/3	y1313	電腦視覺/3/3	cessing/5/5	
					Linux operating sy	/stem/3/3	Computer Vision/	3/3	
					人工智慧/3/3	. 5.51111 51 5	語音辨認/3/3	5.5	
					Artificial Intellige	nce/3/3	Speech Recogniza	ation/3/3	
					編譯器/3/3		編碼理論/3/3		
					Compiler/3/3		Coding Theory/3/	3	
					嵌入式系統程式記 Embedded System Programming/3/3				
			軟體工程/3/3 Software Engineering/3/3				數學邏輯導論/3/3 Introduction of Mathematical Logic/3/3		
					APP 程式設計(一 APP Programming	(1) /2/2	深度學習理論與 Deep Learning Th Practice/3/3		

	一年級 1st	Academic Year	二年級 2 nd	Academic Year	三年級 3rd	Academic Year	四年級 4th Academic Year		
	第一學期	第二學期	第一學期	第二學期	第一學期	第二學期	第一學期	第二學期	
課程類別	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	
Course Category	課程名稱 學分數 Credits	課程名稱 Course Name Credits	課程名稱 Course Name 時數 Hours	課程名稱 Course Name Course Name	課程名稱 Course Name 場數 Credits	課程名稱 Course Name P分數 Credits	課程名稱 Course Name 等分數 Credits	學分數 Credits Course Name	
							學期實習(一)/9		
					APP 程式設計(二)/3/3	Industry Internshi	p for Safety,	
					APP Programming (2) /3/3		Health and Environmental		
							Engineering(-)/	9	
							學期實習(二)/9		
							Industry Internshi		
							Health and Enviro	onmental	
							Engineering(二)		
							暑期實習/2		
							Summer Intern/2		
							專案實習(一)/2		
							Project practicum	(1) /2	
							專案實習(二)/2		
							Project practicum	(2) /2	

備註:

- 一、畢業總學分數為128學分。
- 二、必修 53 學分,選修 47 學分。(不含校共同必修課程及通識課程的學分數)
- 三、校共同必修課程及通識課程 28 學分;相關規定依據本校「共同教育課程實施辦法」、「共同教育課程結構規劃表」及「語言教學實施要點」。
- 四、須修滿英(外)語 8 學分,本國籍學生英語畢業門檻為等同 CEFR B1 以上程度之各類英檢成績;各系自訂英語畢業門檻高於校訂者,另依該系規定。在學期間參加 2 次各類英檢考試,未通過者,須提出考試成績證明始得以下列其中一種方式通過:1.通過校內英語畢業門檻檢定考試。2.參加一期外語教育中心開設之短期英文加強課程,並符合課程簡章規定。3.修讀並通過就讀院系開設 2 學分以上全英授課專業課程 1 門。多益成績達 550 分(或等同 CEFR B1 等級)以上者得免修大一英語(4 學分);多益成績達 785 分(或等同 CEFR B2 等級)以上者得免修大一、大二英語(8 學分),但須選修主題式英語或其他外語課程補足語言畢業學分數。其他外語課程請參閱外語教育中心課程結構規劃表。
- 五、學生修讀所屬學院之「學院共同課程」應認列為本系專業課程學分;修讀所屬學院之「學院跨領域課程」或其他學院開課之 課程,則認列為外系課程學分。
- 六、系所訂定條件 (學程、檢定、證照、承認外系學分及其他)
 - (一) 非本系開設之專業選修課程至多可承認 12 學分(非電資學院內各系所開設之課程至多可承認 6 學分)。
 - (二)本系學生動手學習之實務專業課程,必修:計算機程式設計 3/3、網際網路暨應用 3/3、物件導向程式設計 3/3、資料結構

3/3、微處理機 3/3、演算法 3/3、作業系統 3/3、資料庫 3/3、實務專題(一)1/3、實務專題(二)1/3;選修:計算機程式設計實習 2/3、多媒體程式設計 3/3、互動式網頁程式設計 3/3、物件導向程式設計實習 2/3、資料結構實務 3/3、網路程式設計實務 3/3、視窗程式設計 3/3、微處理機實習 2/3、資料壓縮 3/3、網路資料庫程式設計 3/3、動畫程式設計實務 3/3、Linux系統 3/3、編譯器 3/3、嵌入式系統程式設計實務 3/3、高速網路 3/3、電腦遊戲設計實務 3/3、資訊安全 3/3、資料探勘 3/3、網路安全 3/3、平行處理 3/3、校外暑期實習 2、組合語言程式設計 3/3。

(三)其中系專業選修科目得選修本校電子系或電機系課程;大四得選修電機與資訊學院各系所之研究所課程。

Notes:

- 1. Minimum credits required to graduate: 128.
- 2. Required courses: <u>53</u> credits; elective courses: <u>47</u> credits (excluding credits earned from university-wide common core requirements and general education courses)
- 3. University-wide common core requirements and general education courses total <u>28</u> credits. The relevant regulations are based on the school's "Implementation Regulations of Courses in the College of General Education", "Course Schedule of College of the General Education," and "Implementation Regulations of Language Education".
- 4. 8 credits in English and/or a second foreign language are required to graduate.
 - A. The English proficiency graduation requirement for domestic students is CEFR B1 level or higher with related grade report or transcript. For departments with higher English proficiency requirements, the requirements will be in effect.
 - B. Students who fail to meet the graduation requirement after two attempts at English proficiency tests during their academic years may fulfill it by passing any of the following:
 - a) School's English proficiency graduation test,
 - b) Participation in a short-term English improvement course offered by the Foreign Language Education Center and compliance with the course regulations,
 - c) Taking and passing at least one professional course that adopts English as a Medium of Instruction (EMI) offered by the college or the department which is worth two or more credits.
 - C. Students with a TOEIC score of 550 or above (equivalent to CEFR B1 level) are exempt from Practical English (1) and (2) (4 credits); those achieving a TOEIC score of 785 or above (equivalent to CEFR B2 level) are exempt from Practical English (1), (2), (3) and (4) (8 credits), but must take elective courses like English for Specific Purposes (ESP) courses or other foreign languages to meet the English and/or second foreign language graduation credit requirements. For courses of other foreign languages, please refer to the course schedule of the Foreign Language Education Center.
- 5. Credits earned by students from the common courses offered by their respective colleges shall be accepted as their affiliated departments' professional courses. However, credits earned from interdisciplinary courses offered either by their colleges or by other colleges will be accepted as credits earned from departments outside their own.
- 6. Departmental requirements (programs, certifications, licenses, recognition of external department credits, and other requirements):
 - 1. Up to 12 credits can be recognized for professional elective courses not offered by this department (up to 6 credits for courses offered outside the College of Electrical Engineering and Computer Science).
 - 2. Practical professional courses for students in this department: Required: Computer Programming 3/3, Internet and Applications 3/3, Object-Oriented Programming 3/3, Data Structures 3/3, Microprocessors 3/3, Algorithms 3/3, Operating Systems 3/3, Databases 3/3, Practical Project (I) 1/3, Practical Project

- (II) 1/3; Elective: Computer Programming Practice 2/3, Multimedia Programming 3/3, Interactive Web Programming 3/3, Object-Oriented Programming Practice 2/3, Practical Data Structures 3/3, Practical Network Programming 3/3, Windows Programming 3/3, Microprocessor Practice 2/3, Data Compression 3/3, Network Database Programming 3/3, Animation Programming Practice 3/3, Linux System 3/3, Compiler 3/3, Embedded Systems Programming Practice 3/3, High-Speed Networking 3/3, Computer Game Design Practice 3/3, Information Security 3/3, Data Mining 3/3, Network Security 3/3, Parallel Processing 3/3, Off-campus Summer Internship 2, Assembly Language Programming 3/3.
- 3. Among the department's professional elective subjects, courses from the university's Department of Electronics or Department of Electrical Engineering can be selected; seniors may choose graduate courses from the departments of the College of Electrical Engineering and Computer Science.