亞洲大學 資訊工程學系 學士班課程規劃表 （113 學年度入學適用）

Undergraduate Curriculum Plan for Department of Computer Science and Information Engineering, Asia University (Applicable for Fall 2024 Enrollees)

畢業總學分：128 學分　　校課程委員會通過次別：1131

Credits of Graduation：128　　Approved in the 1131 University Curriculum Committee meeting

類別 Category		科目名稱 Course Title		英文名稱 English Title	修課年級 Year of the Program	修課學期 Semester	學分數 Credits	每週上課時數 Hours per week 講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	備註 Remarks
校定必修 30 學分 (30) University Required Credits	基礎通識 22 學分 (22) Program Required Credits	中文領域 Chinese Category (4 學分) (4 Credits)	中文鑑賞與思辨	Chinese Appreciation and Critical Thinking	一 1st	上 1st	2	2	0	0	
			中文表達與應用	Chinese Expression and Application	一 1st	下 2nd	2	2	0	0	
		英文領域 English Category (8 學分) (8 Credits)	共通英語文(一)	English for General Purposes (1)	一 1st	上 1st	3	3	0	0	
			共通英語文(二)	English for General Purposes (2)	一 1st	下 2nd	3	3	0	0	
			共通專業英語文:醫護英文	English for General Specific Purposes: English for Medical and Nursing Purposes	二 2nd	上、下 1st, 2nd	2	2	0	0	醫學暨健康學院 College of Medical and Health Sciences 護理學院 College of Nursing
			共通專業英語文:科技英文	English for General Specific Purposes: English for Science and Technology							資訊電機學院 College of Information and Electrical Engineering
			共通專業英語文:商管英文	English for General Specific Purposes: Business English							管理學院 College of Management
			共通專業英語文:設計英文	English for General Specific Purposes: English for Creative Design							創意設計學院 College of Creative Design
			共通專業英語文:社科簡報英文	English for General Specific Purposes: English for Presentation for Social Sciences							人文社會學院 College of Humanities and Social Sciences
		程式領域 Information Category (4 學分) (4 Credits)	資訊科技概論	Introduction to Information Technology	一 1st	上 1st	2	2	0	0	1. 資訊科技概論，為資訊學院必修科目。 Introduction to Information Technology is a required course for students in College of Information and Electrical Engineering. 2. 非資訊學院可二選一。 Students not in the College of Information and Electrical Engineering may choose 1 out of 2.
			資訊與科技	Information and Technology							
			程式設計與智慧應用	Computer Programming and Artificial Intelligence Application	一 1st	下 2nd	2	2	0	0	
		歷史領域 History Category (2 學分) (2 Credits)	歷史與文化	History and Culture	一 1st	下 2nd	2	2	0	0	
		藝術領域 Esthetics Category (2 學分) (2 Credits)	設計思考與創新	Design Thinking and Innovation	一 1st	上 1st	2	2	0	0	(二選一) Choose 1 out of 2
			美學素養	Esthetics Accomplishment							
		永續領域 Sustainable Category (2 學分) (2 Credits)	永續發展與實踐(一)	Sustainable Development and Practice (1)	一 1st	上 1st	1	1	0	0	
			永續發展與實踐(二)	Sustainable Development and Practice (2)	一 1st	下 2nd	1	1	0	0	
	博雅通識 8 學分 (8) Program Elective Credits	博雅課程 (人文類、社會類、自然類、生活類)		General Required (Core) Courses (Categories: Humanities, Society, Nature, Life)	一~四 1st ~ 4th	上、下 1st, 2nd	8	8	0	0	1. 博雅課程分為四類： (1)人文類-1 (2)社會類-2 (3)自然類-3 (4)生活類-4 General Required (Core) Courses are divided into 4 categories: (1) Humanities, (2) Society, (3) Nature, and (4) Life. 2. 每一類至少須選修 2 學分(共 8 學分)；亦可以修習通識微學分課程，或通識認可之自主學習課程認抵之。

類別 Category		科目名稱 Course Title	英文名稱 English Title	修課年級 Year of the Program	修課學期 Semester	學分數 Credits	每週上課時數 Hours per week			備註 Remarks
							講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
										Students are required to take at least 2-credit course from each category (8 credits in total); Students could take General Micro-credit Course or Self-Study Course approved by the Center for General Education for credit waiver/transfer. 3. 須於畢業前修畢 8 學分，每學分皆須上滿 18 週。 Students are required to complete 8 credits of General Required (Core) Courses before graduation.
	體育 Physica	體育(一)~(四)	Physical Education (1)~(4)	一~二 1st ~ 2nd	上、下 1st, 2nd	0	2	0	0	
涵養教育 Cultivation Education	通識講座 General Lectures (Required)	通識涵養教育 (健康、關懷、創新、卓越)	General Literacy Series (Domains of Literacy: Healthy, Care, Innovation, Excellence)	一~四 1st ~ 4th	上、下 1st, 2nd	0	0	0	0	1. 在學期間，學生可自由參與校內任何通識認證活動，不限場次。至少參與 8 次。 Students are required to participate in at least 8 campus activities approved by the Center for General Education. 2. 每一素養至少達到 2 次： 健康 2 次、關懷 2 次、創新 2 次、卓越 2 次。 Students are required to attend at least 2 lectures from the 4 domains of Literacy: Healthy, Care, Innovation, Excellence. 3. 畢業前須完成上述 2 項。 Student must complete the above for graduation.
院核心課程 9 學分 (9)College Core Courses		基礎程式設計	Fundamental Computer Programming	一 1st	上 1st	3	3	0	0	
		人工智慧與雲端應用	Artificial Intelligence and Cloud Applications	二 2nd	上 1st	3	3	0	0	
		★畢業專題(一)	Special Projects (Ⅰ)	三 3rd	下 2nd	1	0	0	0	同意專案役男於三上修讀 Approval for the Project Conscript to Take Courses in the First Semester of the Third Year of University
		★畢業專題(二)	Special Projects (Ⅱ)	四 4th	上 1st	1	0	0	0	同意專案役男於三下修讀 Approval for the Project Conscript to Take Courses in the Second Semester of the Third Year of University
		★資訊研討	Information System Seminar	四 4th	下 2nd	1	1	0	0	同意專案役男於三下修讀 Approval for the Project Conscript to Take Courses in the Second Semester of the Third Year of University
系核心課程 39 學分 (39) Departmental Core Courses		資訊數學	Information Mathematics	一 1st	上 1s	3	3	0	0	
		線性代數	Linear Algebra	一 1st	上 1s	3	3	0	0	
		機率與統計	Probability and Statistics	一 1st	下 2nd	3	3	0	0	
		離散數學	Discrete Mathematics	一 1st	下 2nd	3	3	0	0	
		進階程式設計	Advanced Computer Programming	一 1st	下 2nd	3	3	0	0	
		視窗程式設計	Windows Programming	二 2nd	上 1st	3	3	0	0	
		計算機網路概論	Introduction of Computer Network	二 2nd	上 1st	3	3	0	0	
		網頁系統開發	Web Based System Programming	二 2nd	下 2nd	3	3	0	0	
		資料結構與演算法	Data Structures and Algorithms	二 2nd	下 2nd	3	3	0	0	
		資料庫系統概論	Introduction to Database Systems	三 3rd	上 1st	3	3	0	0	
		作業系統概論	Introduction to Operating Systems	三 3rd	上 1st	3	3	0	0	
		微處理器與嵌入式系統	Microprocessor and Embedded Systems	三 3rd	下 2nd	3	3	0	0	

類別 Category		科目名稱 Course Title	英文名稱 English Title	修課年級 Year of the Program	修課學期 Semester	學分數 Credits	每週上課時數 Hours per week			備註 Remarks
							講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
		工程倫理暨資訊法律與服務	Engineering Ethic and Information Law and Services	三 3rd	下 2nd	3	3	0	0	
系專業選修學程 18 學分 (18) Department Professional Program	人工智慧學程 Artificial Intelligence Program	資料科學	Data Science	二 2nd	上 1s	3	3	0	0	學術型 Academic Courses
		機器學習	Machine Learning	二 2nd	上 1s	3	3	0	0	學術型 Academic Courses
		深度學習	Deep Learning	三 3rd	上 1st	3	3	0	0	學術型 Academic Courses
		大數據資料處理	Big Data Information Processing	三 3rd	下 2nd	3	3	0	0	實務型 Practical Courses
		★雲端服務	Cloud Services	四 4th	上 1st	3	3	0	0	實務型 Practical Courses 同意專案役男於三上修讀 Approval for the Project Conscript to Take Courses in the First Semester of the Third Year of University
		★生成式 AI	Generative AI	四 4th	下 2nd	3	3	0	0	實務型 Practical Courses 同意專案役男於三下修讀 Approval for the Project Conscript to Take Courses in the Second Semester of the Third Year of University
	資訊安全學程 Information Security Program	資訊安全概論	Introduction to Information Security	二 2nd	上 1s	3	3	0	0	學術型 Academic Courses
		密碼學	Cryptography	二 2nd	下 2nd	3	3	0	0	學術型 Academic Courses
		網路攻防技術	Network attack and defense	三 3rd	上 1s	3	3	0	0	學術型 Academic Courses
		網路安全	Internet security	三 3rd	下 2nd	3	3	0	0	實務型 Practical Courses
		★雲端安全	Cloud security	四 4th	上 1st	3	3	0	0	實務型 Practical Courses 同意專案役男於三上修讀 Approval for the Project Conscript to Take Courses in the First Semester of the Third Year of University
		★基於人工智慧的網路安全	AI-Based Cybersecurity	四 4th	下 2nd	3	3	0	0	實務型 Practical Courses 同意專案役男於三下修讀 Approval for the Project Conscript to Take Courses in the Second Semester of the Third Year of University
	半導體資訊學程 Semiconductor Information Program	電子學(一)	Electronics (I)	二 2nd	上 1s	3	3	0	0	學術型 Academic Courses
		電子學實驗(一)	Electronics Lab (I)	二 2nd	上 1st	1	0	2	0	實務型 Practical Courses
		電子學(二)	Electronics (II)	二 2nd	下 2nd	3	3	0	0	學術型 Academic Courses
		電子學實驗(二)	Electronics Lab (II)	二 2nd	下 2nd	1	0	2	0	實務型 Practical Courses
		電路學	Electric Circuits	三 3rd	上 1st	3	3	0	0	學術型 Academic Courses
		電路學實驗	Electric Circuits LAB	三 3rd	上 1st	1	0	2	0	實務型 Practical Courses
		數位系統設計	Digital system design	三 3rd	下 2nd	3	3	0	0	實務型 Practical Courses
		積體電路設計導論	Introduction to Integrated Circuit Design	三 3rd	下 2nd	3	3	0	0	實務型 Practical Courses
系自由選修課程 Department Elective Courses		無人機程式設計	Drone Programming	二 2nd	上 1st	3	3	0	0	
		雲端運算實務	Cloud Computing Practice	二 2nd	下 2nd	3	3	0	0	
		內嵌式記憶體電路設計	Embedded Memory Circuit Design	三 3rd	上 1st	3	3	0	0	
		實體設計自動化	Physical Design Automation	三 3rd	上 1st	3	3	0	0	
		半導體製程	Semiconductor Process	三 3rd	上 1st	3	3	0	0	
		智慧製造概論	Introduction to Smart Manufacturing	三 3rd	上 1st	3	3	0	0	
		實驗設計	Experimental Design	三 3rd	上 1st	3	3	0	0	
		感測系統與應用	Sensor System and Application	三 3rd	上 1st	3	3	0	0	
		超大型積體電路測試	VLSI Testing	三 3rd	下 2nd	3	3	0	0	
		計算機組織	Computer Organization	三 3rd	下 2nd	3	3	0	0	

類別 Category	科目名稱 Course Title	英文名稱 English Title	修課年級 Year of the Program	修課學期 Semester	學分數 Credits	每週上課時數 Hours per week			備註 Remarks
						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
	工程數學	Engineering Mathematics	三 3rd	下 2nd	3	3	0	0	
	生產計劃與管制	Production Planning and Control	三 3rd	下 2nd	3	3	0	0	
	品質工程	Quality Engineering	三 3rd	下 2nd	3	3	0	0	
	智慧物聯網	Artificial Intelligence & Internet of Things (AIoT)	三 3rd	下 2nd	3	3	0	0	
	積體電路設計自動化	VLSI Design Automation	四 4th	上 1st	3	3	0	0	
	無線網路	Wireless Networking	四 4th	上 1st	3	3	0	0	
	影像處理	Image Processing	四 4th	上 1st	3	3	0	0	
	機器人實務	Robotics Practice	四 4th	上 1st	3	3	0	0	
	積體電路設計實驗	Integrated Circuit Design Laboratory	四 4th	下 2nd	3	3	0	0	
	綠色製程	Green Manufacturing	四 4th	下 2nd	3	3	0	0	
他系資工專長學程 15 學分 (15) Interdepartmental Specialization Program	資訊安全概論	Introduction to Information Security	二 2nd	上 1s	3	3	0	0	
	人工智慧與雲端應用	Artificial Intelligence and Cloud Applications	二 2nd	上 1s	3	3	0	0	
	網頁系統開發	Web Based System Programming	二 2nd	下 2nd	3	3	0	0	
	資料庫系統概論	Introduction to Database Systems	三 3rd	上 1st	3	3	0	0	
	生成式 AI	Generative AI	四 4th	下 2nd	3	3	0	0	

本系辦理實施「7+1」分流實習課程之對應科目名稱一覽表：

List of course titles for the department's implementation of the "7+1" internship program:

類別 Category	科目名稱 Course Title	英文名稱 English Title	修課年級 Year of the Program	修課學期 Semester	學分數 Credits	每週上課時數 Hours per week			備註 Remarks
						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
分流實習課程 Internship Program	產業服務(7+1 分流)	Industry Service	四 4th	上、下 1st, 2nd	3	0	0	詳見備註 See remarks for details	*全學期需至企業實習 Requires internship in a company throughout a semester 一、 每 1 實習學分以不低於 60 小時、不超過 80 小時為原則。 Each internship credit shall be based on a minimum of 60 hours and a maximum of 80 hours. 二、 每學期以不超過 9 學分「不超過 720 小時」為限。 The total number of credits per semester shall not exceed 9, with a maximum of 720 hours. 三、 實習學分列入畢業學分以不超過 18 學分「不超過 1440 小時」為原則。 Internship credits counted toward graduation requirements shall be limited to a maximum of 18 credits, not exceeding 1,440 hours in total.
	產業學習(7+1 分流)	Industry Learning	四 4th	上、下 1st, 2nd	3	0	0	詳見備註 See remarks for details	
	產業實務實習(7+1 分流)	Industry Internship	四 4th	上、下 1st, 2nd	3	0	0	詳見備註 See remarks for details	

本系辦理實施「3+1」分流實習課程之對應科目名稱一覽表：
List of course titles for the department's implementation of the "3+1" internship program:

類別 Category	科目名稱 Course Title	英文名稱 English Title	修課年級 Year of the Program	修課學期 Semester	學分數 Credits	每週上課時數 Hours per week			備註 Remarks
						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
分流實習課程 Internship Program	產業服務(一) (3+1 分流)	Industry Service (I)	四 4th	上 1st	3	0	0	詳見備註 See remarks for details	*全學年需至企業實習 Requires internship in a company throughout a school year 一、 每 1 實習學分以不低於 60 小時、不超過 80 小時為原則。 Each internship credit shall be based on a minimum of 60 hours and a maximum of 80 hours. 二、 每學期以不超過 9 學分「不超過 720 小時」為限。 The total number of credits per semester shall not exceed 9, with a maximum of 720 hours. 三、 實習學分列入畢業學分以不超過 18 學分「不超過 1440 小時」為原則。 Internship credits counted toward graduation requirements shall be limited to a maximum of 18 credits, not exceeding 1,440 hours in total.
	產業服務(二) (3+1 分流)	Industry Service (II)	四 4th	下 2nd	3	0	0	詳見備註 See remarks for details	
	產業學習(一) (3+1 分流)	Industry Learning (I)	四 4th	上 1st	3	0	0	詳見備註 See remarks for details	
	產業學習(二) (3+1 分流)	Industry Learning (II)	四 4th	下 2nd	3	0	0	詳見備註 See remarks for details	
	產業實務實習(一) (3+1 分流)	Industry Internship (I)	四 4th	上 1st	3	0	0	詳見備註 See remarks for details	
	產業實務實習(二) (3+1 分流)	Industry Internship (II)	四 4th	下 2nd	3	0	0	詳見備註 See remarks for details	

備註 Notes：

一、 學生含通識課程應修畢 128 學分(含)以上，需修習「校定必修」30 學分，「以院為教學核心課程」9 學分，本系「系核心課程」39 學分、本系一個主修「專業學程」18 學分，以及跨域學程：「跨領域學程」、「他系專長學程」或「他系次專長學程」，始能畢業(工程類課程學分須大於 48 學分)，不足畢業學分數，請從本系另一非主修「專業學程」或自由選修中修習學分補足之。

Students must complete a total of 128 or more credits, including 30 credits of "University Mandatory Courses," 9 credits of "College Core Courses," 39 credits of "Department Core Courses," and 18 credits from one of the department's "Professional Programs." Additionally, students must complete credits in cross-disciplinary programs: "Interdisciplinary Program," "Other Department's Major Program," or "Other Department's Minor Program." Engineering-related courses must total more than 48 credits. Any deficiency in the required graduation credits should be made up by taking credits from another "Professional Program" or elective courses within the department.

二、 本系學生畢業前必須自本系開設之專業選修學程中，至少擇一修畢整套課程為主修學程；而學生亦可從專業選修學程中選修部分課程列入自由選修，但不得與主修學程重複計算學分。

Before graduation, students must complete a full set of courses from at least one "Professional Program" offered by the department as their major program. Students may also select individual courses from other professional programs to count as electives, but these credits cannot overlap with the credits of their major program.

三、 凡本系開設之自由選修課程、7+1 及 3+1 分流實習課程或由學生填寫課程學分認定申請單並經系主任同意之外系課程，皆可列入自由選修學分(自由選修學分至少 12 學分為本系專業課程)，否則必須自行擔負學分不被承認的可能結果(其餘請詳閱本校課程學分認定申請單之注意事項)。

Any elective courses offered by the department, the 7+1 and 3+1 internship programs, or courses from other departments approved via a "Course Credit Recognition Application Form" signed by the department chair, can count towards elective credits. At least 12 of the elective credits must be from the department's professional courses. Failure to meet these requirements may result in credits not being recognized. (For further details, please refer to the instructions on the Course Credit Recognition Application Form.)

四、 針對本系系核心課程、專業選修學程及院基礎課程第一次修課必須在本系上課，不得至非本系修課，如違反規定者必須自行擔負學分不被承認可能結果。第二次修課由學生填寫課程學分認定申請單並經系主任同意，始可跨學制、學系修習課程(其餘請詳閱本校課程學分認定申請單之注意事項)。

For the first attempt at any "Department Core Courses," "Professional Program Courses," and "College Foundation Courses," students must take the courses within the department. Taking these courses in another department will result in the credits not being recognized. For the second attempt, students may submit a "Course Credit Recognition Application Form" to take courses from other departments or programs with the department chair's approval. (For additional details, please refer to the Course Credit Recognition Application Form.)

五、 學生除完成本系專業學程 18 學分外，另可修習 3+1 分流或 7+1 分流實習課程，其學分可列計本系專業學程。

In addition to completing the 18 credits of the department's professional program, students may also take the 3+1 or 7+1 internship courses. The credits earned from these courses can be counted toward the department's professional program requirements.

六、 本系規劃表所列「自由選修」科目表，仍需俟開課年度合理之開課學分數，並參酌學生「自主學習」意願開課。

The department's course schedule for "Free Elective" subjects will be arranged based on the reasonable number of credits offered in a given academic year, considering students' "Self-Directed Learning" preferences.

七、 本系學生每學期跨校選修課程之學分數最高以五學分為限，但經同意以遠距方式選讀他校之學分數以其當學期修習學分數之三分之一為原則。

The maximum number of cross-university elective course credits students may take per semester is 5 credits. For distance learning courses from other universities, the maximum number of credits is one-third of the total credits the student is taking that semester.

八、 本系學生，得經系主任同意，上修本校碩士班學分。

With the department chair's approval, students are allowed to take graduate-level courses from the department's master's program.

系所主管簽章：　　學院院長簽章：