AI系113學年度新生必、選修科目表

The list of compulsory/elective courses for freshman in the 113th academic year of Department of Artificial Intelligence, TKU

	一年級 1st year		
	科目 course	學分credit 上	學分credit 下
必修科目 Compulsory courses	外語(英文) Language Expression (English)	2	2
	中國語文能力表達 ABILITY OF EXPRESSING IN SPOKEN AND WRITTEN CHINESE		2
	大學學習 Learning and Development	1	
	社團學習與實作 Learning and Practice of Clubs		1
	體育 Physical Education	1	1
	全民國防教育軍事訓練(一)-國防科技 All-out Defense Education Military Training (I)-National Defense Technology)	0	
	校園與社區服務學習 Common Elective Course/Exra-curricular	1	1
	AI與程式設計 AI and Programming Language	1	
	探索永續 Exploring Sustainability	1	
	離散數學 Discrete Mathematics	3	
	人工智慧概論 Introduction To Artificial Intelligence	3	
	微積分 Calculus	3	
	程式設計(一) Computer Programming (I)	3	
	大一AI實驗 Freshman AI Project Laboratory	1	
	線性代數 Linear Algebra		3
	網路概論 Introduction To Computer Network		3
	機率論 INTRODUCTION TO PROBABILITY THEORY		2
	程式設計(二) Computer Programming (II)		3
	人工智慧應用實驗(一) Artificial Intelligence Application Experiment (I)		1
	學分數合計 credit count	20	19
選修開課 Elective courses	物件導向程式設計 OBJECT ORIENTED PROGRAMMING		2

	二年級 2nd year		
	科目 course	學分credit	
		上	下
必修科目 Compulsory courses	外語 Foreign Languages and Drills	2	2
	體育 Physical Education	1	1
	影像處理 Image Processing	3	
	機器學習(一) Machine Learning (I)	2	
	統計學 Statistics	2	
	資料庫 Database	3	
	資料結構 Data Structures	3	
	人工智慧應用實驗(二) Artificial Intelligence Application Experiment (II)	1	
	機器學習(二) Machine Learning (II)		2
	數據分析 Data Analysis		3
	演算法 Algorithms		3
	人工智慧應用實驗(三) Artificial Intelligence Application Experiment (III)		1
	學分數合計 credit count	17	12
選修開課 Elective courses	人工智慧數學 Mathematics for Artificial Intelligence	3	
	邏輯設計 LOGIC DESIGN	3	
	人工智慧技術專題 Project of Artificial Intelligence Technologies		2
	數位系統設計 DIGITAL SYSTEM DESIGN		3
	物聯網 Internet Of Things		2
	Linux 設計實務 Linux Design Practice		3

	三年級 3rd year		
	科目 course	學分credit 上	學分credit 下
必修科目 Compulsory courses	深度學習 Deep Learning	3	
	畢業專題實驗(一) Senior Project Laboratory (I)	1	
	人工智慧實務 Artificial intelligence practice		3
	自然語言處理 Nature Language Processing		3
	畢業專題實驗(二) Senior Project Laboratory (II)		1
	學分數合計 credit count	4	7
選修開課 Elective courses	崁入式系統設計實務 Design and Practice of Embedded Systems	3	
	人工智慧醫療診斷方法 Artificial intelligence methods in medical diagnosis	3	
	水資訊概論 Introduction to Hydroinformatics	2	
	智慧商務 Introduction to Intelligent Commerce	2	
	人工智慧醫療應用 Artificial intelligence applications in healthcare		3
	商務應用 Business Applications		3
	智慧水資訊管理概論 Introduction to Smart Water Resources Management		2
	邊緣計算與霧計算 EDGE COMPUTING AND FOG COMPUTING		3
	生成式AI GENERATIVE AI		3
	機器人學 ROBOTICS		3
	資料視覺化 DATA VISUALIZATION		3

	四年級 4th year		
	科目 course	學分credit	
		上	下
必修科目 Compulsory courses	無 None		
	學分數合計 credit count	0	0
選修開課 Elective courses	進階深度學習 Advance deep learning	3	
	視覺感測技術與應用 VISUAL SENSING TECHNOLOGY AND APPLICATIONS	3	
	研發技術實習(一) Research Technology Practice (I)	3	
	專案開發實習(一) Project Development Practice (I)	3	
	系統整合實習(一) System Integration Practice (I)	3	
	研發技術實習(二) Research Technology Practice (II)		3
	專案開發實習(二) Project Development Practice (II)		3
	系統整合實習(二) System Integration Practice (II)		3
	人工智慧倫理學 ETHICS OF ARTIFICIAL INTELLIGENCE		2

必修科目總學分數：59 學分(系必修) + 26 學分(通識課程)=85 學分
最低應修本系選修科目總學分數：23 學分
自由選修學分數：20 學分
畢業總學分數：128 學分
Completion of 128 credits, including 85 credits of compulsory courses and 23 credits of elective courses.

113學年度入學新生適用 通識課程架構

- 服務與活動課程
  - 校園與社區服務學習（必修2學分，計入畢業學分）
    - 校共通課程
    - 社團/團體活動
    - 體育競賽/表演
    - 藝文競賽/展演
    - 其他相關活動
  - 全民國防教育軍事訓練(一)—國防科技（必修0學分）
  - 體　育（必修4學分，不計入畢業學分）（詳備註4）
- 通識核心課程（12學分）
  - AI與程式語言（必修1學分）（詳備註1）
  - 探索永續（必修1學分）
  - 科學領域（至少2學分）
    - 資訊教育學門
    - 全球科技革命學門
    - 自然科學學門
  - 社會領域（至少2學分）
    - 全球視野學門
    - 未來學學門
    - 社會分析學門
    - 公民社會及參與學門
  - 人文領域（至少2學分）
    - 文學經典學門
    - 歷史與文化學門
    - 哲學與宗教學門
    - 藝術欣賞與創作學門
- 基本知能課程（12學分）
  - 課外活動與團隊發展（1學分）
    - 社團學習與實作（1學分）
  - 學習與發展（1學分）
    - 大學學習（1學分）
  - 語文表達（10學分）
    - 外國語文（8學分）（大一英文必修4學分＋大二外語自由選修4學分）
    - 中國語文能力表達（2學分）

備註：

1. 資工系、商管學院各系學生不須修習「AI與程式語言」，但仍須修滿通識核心課程12學分。
2. 每學門至多承認2科4學分為通識核心課程必修學分；同一科目重複修習僅計算一次畢業學分。
3. 部分學系有自訂不承認為畢業學分之通識核心課程，請洽詢所屬學系。
4. 體育，計入當學期選課學分，不計入畢業學分。

These guidelines apply to students who were admitted to TKU as of the 2024 academic year

- Fundamental Courses：12 credits
  - Language Expression (10 credits)
    - a. Chinese Language (2 credits)
    - b. Foreign Languages and Drills (8 credits) (4 credits of freshman English+4 credits of any foreign language)
  - Learning and Development (1 credit)
  - Extracurricular Activities and Team Development (1 credit)
    - Learning and Practice of Clubs
- General Education and Core Courses：12 credits
  - Exploring Sustainability (1 credit required)
  - AI and Programming Language*Note1 (1 credit required)
  - Humanities (2 credits required)
    - a. Literature and Classics
    - b. History and Culture
    - c. Philosophy and Religion
    - d. Arts Appreciation and Creativity
  - Society and Culture (2 credits required)
    - a. Global Outlook
    - b. Futures Studies
    - c. Social Analysis
    - d. Civil Society and Participation
  - Scientific Inquiry (2 credits required)
    - a. Information Education
    - b. Global Technological Revolution
    - c. Natural Sciences
- Service and Extra-curricular Activities
  - Physical Education (4credits required and are not counted towards the graduation credits)
  - All-Out Defense Education Military Training (1)-National Defense Technology (0 credit required)
  - 1.Campus and Community Service-Learning (2credits required and are counted towards the graduation credits)
    2.Common Elective Courses/Extra-curricular activities/Sport competition and performance/Art competition and performance/Other activities

Notes：

1. Students from the Department of Computer Science and Information Engineering, as well as those from various departments within the College of Business and Management, are not required to take the "AI and Programming Languages" course. However, they still need to complete 12 credits of General Education and Core Courses.
2. A maximum of 2 courses (4 credits) from each discipline can be counted towards the required credits for General Education and Core Courses. Repeated enrollment in the same course will only be counted once towards graduation credits.
3. Some departments have specific General Education and Core Courses that are not recognized as graduation credits. Please consult your respective department for details.
4. Physical Education are included in the credits for the semester but are not counted towards graduation credits.