

中國醫藥大學 醫學院醫療資訊學系 必修畢業學分認定表 113 學年度入學適用

China Medical University Department of Biomedical Informatics Requirement for Undergraduate Majors (Applicable for 2024-2025 Enrollees)

科目名稱 Course Title	修別 Type	學分 Credits	一年級 Freshman		二年級 Sophomore		三年級 Junior		四年級 Senior		課程分類 Category	備註 Remarks
			上	下	上	下	上	下	上	下		
			1	2	1	2	1	2	1	2		
計算機概論(Introduction to Computer Science)	必(R)	2.0	2.0								系定必修(Departmental Require)	
程式設計(一)(Programming (I))	必(R)	2.0	2.0								系定必修(Departmental Require)	
微積分(Calculus)	必(R)	2.0	2.0								系定必修(Departmental Require)	
醫療場域沉浸式實習(一)(Clinical Immersive Learning (I))	必(R)	2.0	2.0								系定必修(Departmental Require)	
程式設計(二)(Programming (II))	必(R)	2.0		2.0							系定必修(Departmental Require)	
線性代數(Linear Algebra)	必(R)	2.0		2.0							系定選修(Departmental Electiv)	
醫療場域沉浸式實習(二)(Clinical Immersive Learning (II))	必(R)	2.0		2.0							系定必修(Departmental Require)	
計算機網路(Computer Networks)	必(R)	2.0			2.0						系定必修(Departmental Require)	
資料結構(Data Structure)	必(R)	2.0			2.0						系定必修(Departmental Require)	
數位醫學概論(Introduction to Digital Medicine)	必(R)	2.0			2.0						系定必修(Departmental Require)	
人工智慧(一)(Artificial Intelligence (I))	必(R)	2.0				2.0					系定必修(Departmental Require)	
大數據(一)(Big Data (I))	必(R)	2.0				2.0					系定必修(Departmental Require)	
生物統計實務(Biostatistics Practice)	必(R)	2.0				2.0					系定必修(Departmental Require)	
資料庫系統(Database System)	必(R)	2.0				2.0					校定必修(University Required)	
演算法(Algorithm)	必(R)	2.0				2.0					系定必修(Departmental Require)	
Web程式設計(Web Programming)	必(R)	2.0					2.0				系定必修(Departmental Require)	
人工智慧(二)(Artificial Intelligence (II))	必(R)	2.0					2.0				系定必修(Departmental Require)	
大數據(二)(Big Data (II))	必(R)	2.0					2.0				系定必修(Departmental Require)	
生物資訊學(一)(Bioinformatics (I))	必(R)	2.0					2.0				系定必修(Departmental Require)	
作業系統(Operating Systems)	必(R)	2.0					2.0				系定必修(Departmental Require)	
物聯網概論(Introduction of Internet of Things (IoT))	必(R)	1.0					1.0				系定必修(Departmental Require)	
醫院資訊系統(一)(Hospital Information System (I))	必(R)	2.0					2.0				系定必修(Departmental Require)	
生物資訊學(二)(Bioinformatics (II))	必(R)	2.0						2.0			系定必修(Departmental Require)	
物件導向程式設計(Object-Oriented Programming)	必(R)	2.0						2.0			系定必修(Departmental Require)	
醫院資訊系統(二)(Hospital Information System (II))	必(R)	2.0						2.0			系定必修(Departmental Require)	
醫療物聯網技術與實作(Medical Internet of Things: Technology and Implementation)	必(R)	1.0						1.0			系定必修(Departmental Require)	
書報討論(一)(Discussion in Lecture (I))	必(R)	2.0							2.0		系定必修(Departmental Require)	
數位醫療應用思路(二)(Digital Healthcare Applications: Concepts and Implementation (II))	通(G)	2.0							2.0		系定選修(Departmental Electiv)	
書報討論(二)(Discussion in Lecture (II))	必(R)	2.0							2.0		系定必修(Departmental Require)	
合計 必修 總學分(Requirement subtotal)		56.0	8.0	6.0	6.0	10.0	13.0	7.0	4.0	2.0		

校內注意事項

- 113學年度入學生畢業學分認定表備註：
- 一、畢業前必須通過英文鑑定，方能畢業。相關規定依本校「學生英文能力鑑定實施辦法」辦理。
 - 二、體育課一年級為必修，每學期0學分，不及格不得畢業。大學部二年級以上為選修，每學期一學分。
 - 三、國防軍事訓練改為選修，每週上課2小時為1學分，成績及格者，83年次以前同學以每8堂課折算1日役期(1門課折抵4日役期，2門課折抵9日役期，以此類推)。83年次以後同學每門課折抵2日訓期。
 - 四、通識教育課程分為正式課程及通識教育活動：
 - (一)正式課程：必修28學分

Note of CMU

- For students enrolled in the fall semester of 2024:
1. According to the regulation of CMU Students' English Proficiency Assessment, Students must pass the minimal English Proficiency Requirement before graduation.
 2. Taking Physical Education Course is compulsory for first year students (0 credits), students must pass to graduate. For second year or above, Physical Education is elective with 1 credit per semester.
 3. Defense Education Military Training Course is elective, with 2 hours per week (1 credit).
 4. General education courses consist of formal courses and general

1. 英文必修4學分

英文課程採分級制，分級以大學指考及學測成績為依據，分級結果於選課前公告。如達該學系英文畢業檢定標準，經所屬學系審核通過，得免修英文4學分，相關細則依「中國醫藥大學英文暨英語聽講必修課程免修學分實施要點」規定辦理。

2. 資訊相關課程 (2學分)

3. 服務學習課程 (1學分)

4. 通識課程 (21學分)

(1) 核心通識課程：至少修習10學分，五大類中至少任選三大類。

A. 語文類：國文、英文進階課程及第二外語課程等。

B. 人文藝術類：文學藝術類、歷史文明類等。

C. 社會科學類：法政類；社會、心理、人類、教育、性別研究類；管理、經濟類等。

D. 自然科學類：基礎科學類；生命科學類；應用科學類；科學技術類等。

E. 運動知能類：如運動心理學、運動生理學、國際賽事分析與博奕事業、運動與健康的學理探討等學術類課程。如屬該學系之必修課程者，將設限不得認列為通識學分。

(2) 跨學院通識課程：至少須修習跨學院課程4學分。

(二) 通識教育活動：0學分，學生須於在學期間參與至少16小時通識教育中心所認定之演講與校外所舉辦之展演活動；成績以通過/不通過計分。相關細則依「通識教育活動實施要點」規定辦理。

五、服務學習時數：需修習通識必修1學分（可認列18小時服務學習課程）（醫學系、中醫學系另於下學期開設系上必修1學分）之服務學習課程，以及6小時志願服務基礎教育訓練、6小時服務學習講座參與、18小時志工服務（不含服務學習講座），共計需完成48小時之服務學習時數，始符合畢業資格。

※志願服務基礎訓練由學務處服務學習中心舉辦（另行公告），其他未盡事宜請詳閱「服務學習課程實施要點」（學務處服務學習中心網頁）。

六、畢業前必須參加校內舉辦之基礎心肺復甦術訓練，方具畢業資格。相關規定依本校「學生基礎心肺復甦術訓練實施要點」辦理。

七、本學分表做為畢業學分認定之依據。

education activities:

(1) Formal courses: 28 required credits

i. English (4 credits): A level-based class grouping system is adopted based on students' score of the entrance examination. Students who meet the department's English graduation standard and are approved by the department can be exempted from the course.

ii. Technology Information-related courses (2 credits)

iii. Service learning courses (1 credit)

iv. General education courses (21 credits)

Core general education courses: Minimum of 10 credits, with at least three of the five categories. (Language, Humanities and arts, Social sciences, Natural sciences, Sports)

Cross-college general education courses: Minimum of 4 credits.

(2) General education activities: 0 credits. Students must participate in at least 16 hours of activities held by the General Education Center, scores will be marked as pass/fail.

5. Service learning hours: 1 credit of compulsory general education (can be listed in 18 hours of service learning courses) (School of Medicine and Chinese Medicine will offer 1 credit of compulsory course in the 2nd semester), 6 hours of voluntary service basic training, 6 hours participation service-learning lectures, and 18 hours of volunteer service. A total of 48 hours is required to be eligible for graduation.

※ Voluntary service basic training will be held by the Office of Student Affairs (to be announced).

6. Students must participate in the basic cardiopulmonary resuscitation training held by the university before graduation.

7. This list is used as the recognition basis of courses and credits required for graduation

醫療資訊學系注意事項

- 一、設立宗旨：以健康大數據及人工智慧為基礎，培育跨領域的生物醫療資訊應用專才。
- 二、教育目標：
 1. 培育人工智慧數位科技於精準醫學之應用專才。
 2. 培育人工智慧數位科技於醫事資訊管理之應用專才。
 3. 培育人工智慧數位科技於智慧長照及數位治療之應用專才。
 4. 培育具備終身學習與社會關懷之生物醫療資訊人才。
- 三、核心能力：
 1. 具備數理統計能力。
 2. 具備程式設計能力。
 3. 具備基礎醫學知識能力。
 4. 具備生物醫療資訊跨域整合能力。
- 四、本系四年制，至少應修128學分始得畢業，含必修54學分、通識28學分、選修46學分(至少有16 學分為本系開設之學分)。113學年度入學生起適用。
- 五、本系學生需通過大學程式能力檢定，施行細則另訂之。

單位主管簽章：

Note of Department of Biomedical Informatics

1. Program Mission
To cultivate cross-disciplinary professionals capable of applying biomedical information effectively, leveraging health big data and artificial intelligence.
2. Program Objectives
 - (i) Develop experts in the application of artificial intelligence and digital technologies to precision medicine.
 - (ii) Train professionals in the management of medical information using artificial intelligence and digital tools.
 - (iii) Cultivate experts in the application of artificial intelligence and digital technologies for smart long-term care and digital therapeutics.
 - (iv) Foster biomedical information specialists equipped with lifelong learning skills and a commitment to social responsibility.
3. Core Competencies
 - (i) Proficiency in mathematical statistics
 - (ii) Programming skills
 - (iii) Fundamental medical knowledge and abilities
 - (iv) Capacity to integrate biomedical information across diverse domains
4. Program Structure
This is a four-year program requiring a minimum of 128 credits for graduation. The curriculum comprises 54 credits of required courses, 28 credits of general education courses, and 46 elective credits, of which at least 16 must be from this department. This structure applies to students enrolled in the 2024 academic year.
5. Programming Proficiency Requirement
Students in this program must successfully complete the Collegiate Programming Examination (CPE). Specific requirements and procedures will be outlined separately.