

中國醫藥大學 人文與科技學院數位健康創新碩士學位學程 選修畢業學分認定表 112 學年度入學適用

China Medical University Master Program for Digital Health Innovation Elective for Master Program (Applicable for 2023-2024 Enrollees)

| 科目名稱<br>Course Title   | 修別<br>Type | 學分<br>Credits | 一年級<br>Freshman |      | 二年級<br>Sophomore |   | 可供博士班上修<br>(請打勾)<br>Available for Ph.D.<br>Program (check) | 可供學士班上修<br>(請打勾)<br>Available for<br>Undergraduate (check) | 課程分類<br>Category       | 備註<br>Remarks |
|--|------------|---------------|-----------------|------|------------------|---|--|--|------------------------|---------------|
|  |            |               | 上               | 下    | 上                | 下 |  |  |                        |               |
|  |            |               | 1               | 2    | 1                | 2 |  |  |                        |               |
| 三創工作坊(ICE workshop)  | 選(E)       | 2.0           | 2.0             |      |                  |   | √  |  | 所定選修(Elective Courses) |               |
| 生物資料庫研究特論(Special topics of biobank research)  | 選(E)       | 2.0           | 2.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 生物資訊特論(Special topics on bioinformatics)   | 選(E)       | 1.0           | 1.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 生醫資訊學特論(一)(Special topics on biomedical informatics (I))                               | 選(E)       | 1.0           | 1.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 基礎深度學習與醫療應用(Basic deep learning & medical applications)                                | 選(E)       | 1.0           | 1.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 統計與大數據分析(Using python for data analysis)   | 選(E)       | 2.0           | 2.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 智慧物聯網應用與實務(AI & IoT applications & practice)   | 選(E)       | 1.0           | 1.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 智慧財產權法(Intellectual property rights)   | 選(E)       | 2.0           | 2.0             |      |                  |   |  |  | 所定選修(Elective Courses) |               |
| 資料結構與演算法分析(Data structures & algorithm analysis)                                       | 選(E)       | 3.0           | 3.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 資訊安全特論(Special topics on information security)   | 選(E)       | 3.0           | 3.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 機器學習在醫療領域的基礎與實踐(一)(Machine learning fundamentals & applications in healthcare (I))     | 選(E)       | 1.0           | 1.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 醫學影像處理與分析(Medical Image processing and analysis)                                       | 選(E)       | 3.0           | 3.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 醫療大數據研究方法與健康資料特論(Special topics on research methods & big data in medicine)            | 選(E)       | 1.0           | 1.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 醫療資訊安全(Medical information security)   | 選(E)       | 1.0           | 1.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 醫藥人工智慧專題(Topics of Medical and Pharmaceutical AI)                                      | 選(E)       | 2.0           | 2.0             |      |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| AI影像識別實務(AI image recognition practice)  | 選(E)       | 3.0           |                 | 3.0  |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| FHIR與電子病歷交換(FHIR & medical data exchange)  | 選(E)       | 1.0           |                 | 1.0  |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 生醫創新思維(Biomedical innovation thinking)   | 選(E)       | 3.0           |                 | 3.0  |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 生醫資訊學特論(二)(Special topics on biomedical informatics (II))                              | 選(E)       | 1.0           |                 | 1.0  |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 深度學習實作(Workshop for deep learning)   | 選(E)       | 2.0           |                 | 2.0  |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 量子密碼學特論(Special topics on quantum cryptography)  | 選(E)       | 3.0           |                 | 3.0  |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 雲端運算-基礎架構與服務(Cloud computing - fundamental structures & services)                      | 選(E)       | 1.0           |                 | 1.0  |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 資料庫管理系統(Database management systems)   | 選(E)       | 3.0           |                 | 3.0  |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 數位健康資料庫分析實作(Digital Health Database Analyses Workshop)                                 | 選(E)       | 3.0           |                 | 3.0  |                  |   | √  | √  | 所定選修(Elective Courses) |               |
| 機器學習在醫療領域的基礎與實踐(二)(Machine learning fundamentals & applications in healthcare (II))    | 選(E)       | 1.0           |                 | 1.0  |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 醫療人工智慧(Artificial intelligence in medicine)  | 選(E)       | 1.0           |                 | 1.0  |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 醫療大數據資料庫建構與分析應用(Construction & analytic applications of healthcare big data databases) | 選(E)       | 1.0           |                 | 1.0  |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 醫療物聯網與建築物聯網(Medical IoT & building IoT)  | 選(E)       | 1.0           |                 | 1.0  |                  |   | √  | √  | 所定選修(Elective Courses) | 醫療資訊特色課程      |
| 合計 選修總學分 (Elective subtotal)   |            | 50.0          | 26.0            | 24.0 |                  |   |  |  |                        |               |

校內注意事項

- 一、校級畢業規定
- (一)須完成修讀「研究倫理」0學分課程。
  - (二)須通過校定碩士生英文能力鑑定標準，相關規定依本校「學生英文能力鑑定實施辦法」辦理。
  - (三)教學助理訓練：碩士生須完成至少1學期之教學助理訓練。

二、本學分表做為畢業應修課程學分之認定依據。

Note of CMU

- University requirement for graduation
- (1)Students must take and pass the courses Research ethics. (0 credit course)
  - (2)According to the regulation of CMU Students' English Proficiency Assessment, students must pass the English Proficiency requirement before graduation.
  - (3)Teaching assistant training: All master students must complete at least one semester of teaching assistant training.
- 2.This list is used as the recognition basis of courses and credits required for graduation.

數位健康創新碩士學位學程注意事項

112學年度入學生~數位健康創新碩士學位學程注意事項：

一、數位健康創新碩士學位學程教育目標：將培養學生對於當前複雜且巨量的多種類型資料，透過人工智慧技術進行深度學習的知識探索並建立預測機制與模型，引導數據科學更貼近人類的生活，並輔導提升未來的新興科技產業。

二、

(一) 畢業學分32學分，包括必修8學分、院必修2學分、碩士論文6學分及選修16學分。

(二)

1. 校級必修課程：「研究倫理」0學分。

2. 院級必修課程：「人文與科技專題研究」2學分。

(三) 畢業前，必須於相關領域研討會以壁報或口頭發表一篇，或完成投稿至國際研討會或期刊審查。

(四) 其他相關課程學分抵免須經學程主任或指導教授同意，並經數位健康創新碩士學位學程事務會議通過。

(五) 本學程學生須通過校定碩士生英文能力鑑定標準，相關規定依本校「學生英文能力鑑定實施辦法」辦理。

(六) 本學程學生須完成至少1學期之教學助理訓練，惟具全職工作或已具教學經驗者，經審核通過者，予以免修，務必於畢業前完成教學助理訓練並繳交證明至學程辦公室辦理認列。

Note of Master Program for Digital Health Innovation

1.The Master Program for Digital Health Innovation will foster a new generation of graduates with not only theoretical knowledge, but also advanced skills to fill the gap between industry and academia. Courses are based on Artificial Intelligence (AI) and are taught by China Medical University (CMU) faculty from College of Medicine. The program works in cooperation with China Medical University Hospital's biotechnology area.

2.1~4 years of study, with a minimum graduation credit of 32 credits,Required 10Credits,Elective 16 Credits,Thesis 6 Credits.

(1) Required at School level:Research Ethics 0 Credits.

(2) Required at College level:Individual studies in Humanities and Science 2 Credits.

(3) Before graduation, you must publish an article in a wall newspaper or orally at a seminar in a relevant field, or complete the submission to an international seminar or journal review.

(4) The credit credits for other relevant courses must be approved by the course director or instructor, and approved by the The Master Program for Digital Health Innovation Affairs Conference.

(5)According to the regulation of CMU Students' English Proficiency Assessment, students must pass the English Proficiency requirement before graduation.(Foreign students excluded).

(6)Teaching assistant training: All Master students must complete at least one semester of teaching assistant training.(Foreign students excluded).

單位主管簽章：