管院碩士班(含碩專班)課程大綱
MS/MA Program Syllabus

2023.09.26 修訂

系所 Department	資管所 IM 醫管所 Medical IM	必選修 compulsory/elective	必修 Compulsory
課程名稱 Course title	生成式人工智慧暨醫療產業的應用 Generative artificial intelligence and application in healthcare	學分數 Credit(s)	3
課號 Course Code	5307157 5557004	全英文授課 English Taught(EMI)	是(Yes)
學年/學期 academic year/Semester	Spring, 2025	上課地點 Classroom	349
講授教師 Instructor	Yu-Hsiu Lin	上課時間 Time	13:10-16:00 Monday

教師辦公室&諮詢時間 Instructor office & office hour	34614 Online appointment	教師聯絡資訊 Instructor Contact	Phone: #34614 Email: yuhsiu@ccu.edu.tw
助教 Teaching assistant	TBD	助教聯絡資訊 TA contact	Email:

先修課程 Pre-requisite courses	None
學習目標 Learning Objective	1. Understanding the Fundamentals of Generative Artificial Intelligence 2. Exploring Generative Models 3. Applying Generative Models 4. Addressing Ethical and Privacy Concerns in Generative AI
課程概述 Course Descriptions	隨著生成式人工智慧（Generative artificial intelligence, GenAI）的興起，透過這門課程，將讓學生透過實作熟悉GenAI的核心概念、運作原理與技術，體驗文字、圖像、音樂等生成能力，課程將涵蓋大型語言模型相關的基礎知識，並深入探討生成式模型的各種應用，包括文本生成、圖像生成、語音生成等。此外，學生還將學習到生成式人工智慧面臨的倫理、隱私挑戰，以及未來展望與實踐項目。 With the rise of Generative Artificial Intelligence (GenAI), this course is designed to provide students with a hands-on understanding of the core concepts, operational principles, and technologies of GenAI. Students will explore its capabilities in generating text, images, and music. The curriculum covers foundational knowledge related to large language models and delves into various applications of generative models, including text generation, image synthesis, and speech generation. Additionally, students will examine the ethical and privacy challenges associated

<table>
<tr><td></td><td colspan="4">with GenAI, alongside discussions on future prospects and practical project implementation.</td></tr>
<tr><td colspan="5">對應 AOL 職能素養(AOL Competency)</td></tr>
<tr><td colspan="2">職能素養 2(Competency 2): 創造力與創新
Creativity and Innovation</td><td colspan="3">職能素養 1(Competency 1): 知識整合
Knowledge Integration</td></tr>
<tr><td>課程類別
Course Attributes</td><td colspan="4">□人文關懷課程(Humanities Caring) □競賽專題課程(Competition)
□問題導向課程(Problem-solving) ■專題導向課程(Project-based)
■實作課程(Practice-based) □總整課程(Capstone)</td></tr>
<tr><td>教材編選
Teaching materials</td><td colspan="4">□自製簡報(self-made PPTs) □課程講義(Teaching Notes)
■自編教科書(self-made textbooks) □教學程式(programming)
□自製教學影片(self-made video) □其他(Others)</td></tr>
<tr><td>教學資源
Teaching Resources</td><td colspan="4">■課程網站(Website) □實習網站(Intern Web)
□教材電子檔供下載(Downloadable Files)</td></tr>
<tr><td>教科書/參考書
Textbooks/References</td><td colspan="4">採用自編講義。</td></tr>
<tr><td rowspan="6">評量方式(請填百分比)
Assessment</td><td>課堂參與 Participation</td><td>10%</td><td>個案討論 Case study</td><td>%</td></tr>
<tr><td>作業 Homework</td><td>30%</td><td>專題 Project</td><td>50%</td></tr>
<tr><td>小考 Quiz</td><td>%</td><td>其他 1 other ( )</td><td>%</td></tr>
<tr><td>期中考 Midterm</td><td>%</td><td>其他 2 other ( )</td><td>%</td></tr>
<tr><td>期末考 Final</td><td>%</td><td>其他 3 other ( )</td><td>%</td></tr>
<tr><td>報告 Presentation</td><td>10%</td><td>其他 4 other ( )</td><td>%</td></tr>
<tr><td>其他說明
Other description</td><td colspan="4">1. Academic Honesty: Academic integrity policy, based on the law: https://goo.gl/z6UqZ2 (Please read and understand). Most students are expected to be honest in your academic work, hence, you are expected to comply with the law. All research papers/assignments will be submitted through SafeAssignment to verify the originality of work and the adequacy of citation of sources.
2. Assignments are due on dates and at times note: Under normal circumstances, late work will NOT be accepted without prior agreement, except in the case of an emergency. You should contact me directly via e-mail if you have difficulty submitting an assignment on time. All assignments are due by close of business (COB) the day.
3. Student Disabilities: Please contact me personally at the beginning of the semester if you have a condition or disability that may interfere with your performance in this course. We can discuss accommodations that may be necessary to allow you to participate fully and to facilitate your learning opportunities in the class.</td></tr>
</table>

課程規劃表 Course Schedule

週次 week	日期 Date	內容 Description	教材章節 Textbook	其他說明 Remark
1.	2/17	Introduction		
2.	2/24	Prompt engineering		
3.	3/3	LLM ChatGPT-Assisted Office Workflow		
4.	3/10	Robotic Process Automation 1		
5.	3/17	Robotic Process Automation 2		
6.	3/24	Generative AI for Speech		
7.	3/31	Generative AI for Images		
8.	4/7	**Spring break**		
9.	4/14	Midterm-Discussion of term paper		
10.	4/21	Explainability and Ethics of Generative AI		
11.	4/28	Retrieval Augmented Generation 1		
12.	5/5	Retrieval Augmented Generation 2		
13.	5/12	Case study 1		
14.	5/19	Case study 2		
15.	5/26	Project presentation 1		
16.	6/2	Project presentation 2		
17.	6/9	Self-learning 1		
18.	6/16	Self-learning 2		