國立台灣科技大學 114學年 第2學期　課程大綱

Spring 2026 NTUST Course Outline

授課教師：黃啟祐

Instructor:Chi-Yo Huang

課程名稱：人工智慧與商業分析

Course Title：Artificial Intelligence and Business Analytics

2026/11/3

課程代號： TM5610701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Electve:Elective/Half Yr. 先修課程： Prerequisites
節次教室： Time/Location	W10(TR-812) W8(TR-812) W9(TR-812)
專業核心能力： Core Professional Competencies	■解決問題之能力(Problem Solving) ■管理專業知識(Comprehensive management knowledge)
課程網址： Course Website	
課程宗旨： Course Objectives	The course "Artificial Intelligence and Business Analytics" for Management of Technology students aims to connect advanced artificial intelligence (AI) technologies with real-world business uses. This syllabus at the graduate level covers a thorough curriculum that familiarizes students with the basics of AI, such as machine learning, natural language processing, robotics, and decision-making systems. Students will acquire the ability to utilize AI to address intricate business challenges, improve decision-making, and develop cutting-edge solutions across different industries by combining theoretical understanding with practical projects. The course will address ethical considerations, societal impacts, and future trends in AI to equip students to responsibly lead the integration of AI into business strategies. Students will examine practical uses of AI in marketing, finance, operations, and customer service through case studies, gaining a comprehensive understanding of AI's potential to revolutionize business operations. By the course's conclusion, students will have gained a comprehensive comprehension of AI technologies and their practical implications in business, preparing them with the necessary skills to excel as leaders in technology management.
課程大綱： Outline of Lectures	

1. Introduction
2. Introduction to Python (1)
3. Introduction to Python (2)
4. Data Visualization
5. Dimension Reduction
6. Multiple Linear Regression
7. Logistic Regression
8. Evaluating Predictive Performance
9. Deep Learning
10. Association Rule Mining
11. Cluster Analysis
12. Social Network Analysis
13. Text Mining
14. Web Crawler (Temp speaker: Dr. Y.S. Kao)
15. Large Language Model (Temp speaker: Dr. C.C. Chuan)
16. Final Project Presentation

Note: The course schedule may be adjusted based on students' learning progress; guest speakers will be invited.

授課方式： Method of Instruction	講授 Lecture：70% 分組討論 Group discussion：0% 案例研討 Case study：30% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	Shmueli, G., Bruce, P. C., Deokar, K. R., & Patel, N. R. (2025). Machine learning for business analytics: Concepts, techniques, and applications in Python (2nd ed.). John Wiley & Sons.
參考書目： References	Allen, G. (2020). Understanding AI technology. Joint Artificial Intelligence Center. Dawson, M. (2010). Python programming for the absolute beginner (3rd ed.). Course Technology. Rose, D. (2020). Artificial intelligence for business. FT Press.
修課須知： Notice	
評量方式： Grading	Grading Policy: Participation and class attendance: 30%. Home Works: 30% Term Paper: 40%. Unless it is impossible to ask for leave in advance due to force majeure, an absence will result in a 10-point deduction from the total score.
備註說明： Notes	N/A