



Course Specification

(Bachelor)

Course Title: Application of AI in Business

Course Code: APFT2511

Program: Diploma in Fintech

Department: Finance banking and Insurance

College: The applied College

Institution: Umm Al-Qura University

Version: First

Last Revision Date: 27 March 2025



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A. General information about the course:

1. Course Identification

1. Credit hours: (3)

3

2. Course type

- A. ☐ University ☐ College ☒ Department ☐ Track ☐ Others
- B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: (1/1)

4. Course General Description:

This course introduces students to the practical application of Artificial Intelligence (AI) tools in the fields of business and finance. It focuses on using generative AI to automate, enhance, and simplify financial analysis, modeling, and decision-making. Students will learn how to use AI to write Python scripts for tasks such as stock screening, valuation, risk analysis, and financial forecasting, as well as explore real-world applications like chatbots, fraud detection, and portfolio optimization.

5. Pre-requirements for this course (if any):

6. Co-requisites for this course (if any):

None

7. Course Main Objective(s):

By the end of this course, students will be able to:

- Understand the role of AI in modern business and finance.
- Use AI tools (e.g., ChatGPT, Copilot) to generate Python code.
- Apply Python-AI solutions to financial datasets.
- Automate financial analysis and reporting using AI.
- Explore AI applications such as chatbots, credit scoring, sentiment analysis, and trading bots.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	E-learning		
3	Hybrid		





No	Mode of Instruction	Contact Hours	Percentage
	<ul style="list-style-type: none"> Traditional classroom E-learning 		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	15
2.	Laboratory/Studio	30
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	0
Total		45

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Define core concepts of AI and its role in business and finance	K1	Lectures	Exams, Participation, Group Project
1.2	Describe various applications of generative AI in financial services	K2	Lectures	Exams, Participation, Group Project
2.0	Skills			
2.1	Use AI tools to generate and debug Python scripts for financial problems	S1	Lectures, Assignments	Exams, Participation, Group Project
2.2	Analyze financial data using AI-generated Python code	S2	Lectures, Assignments	Exams, Participation, Group Project
3.0	Values, autonomy, and responsibility			





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
3.1	Show ability to work with others	V1	Discussion, Assignments	Group Discussions, Group Project
3.2	Appreciate ethical considerations and practical constraints of using AI in decision-making	V2	Discussion, Assignments	Group Discussions, Group Project

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to AI in Business and Finance	3
2	Overview of Generative AI and LLMs (ChatGPT, Claude, etc.)	3
3	Basics of Prompt Engineering for Code Generation	3
4	Introduction to Python in Finance using AI	6
5	Using AI to Build Python Tools (e.g., DCF Calculator)	9
6	Mid term exam	3
7	Financial Data Analysis Using AI and Python	6
8	Sentiment Analysis Using AI (news, tweets, reports)	6
9	Case Study: analysing and listed company using AI and Python	6
Total		45

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm exam	6	25%
2.	Group Project	12	15%
3.	Individual Homework	6	5%
4.	Participation	Ongoing	5%
5.	Final Exam	TBD	50%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).



E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	<p>Applications of Artificial Intelligence in Business and Finance 5.0.</p> <p>ISBN 9781774917015</p> <p>284 Pages 54 B/W Illustrations</p> <p>Published December 6, 2024 by Apple Academic Press</p>
Supportive References	
Electronic Materials	<p>PyPI · The Python Package Index</p> <p>ChatGPT</p> <p>Welcome to Colab - Colab</p> <p>pandas - Python Data Analysis Library</p>
Other Learning Materials	<ul style="list-style-type: none"> Google Colab or Jupyter Notebooks – for Python + AI code. Alpha Vantage / Yahoo Finance APIs – for live data fetching.

2. Required Facilities and equipment

Items	Resources
<p>facilities</p> <p>(Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)</p>	Classrooms, laboratories
<p>Technology equipment</p> <p>(projector, smart board, software)</p>	Projector – Smart board – Computer – Python software
<p>Other equipment</p> <p>(depending on the nature of the specialty)</p>	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students - Faculty	Indirect
Effectiveness of Students assessment	Faculty	Indirect
Quality of learning resources	Students - Faculty	Indirect
The extent to which CLOs have been achieved	Faculty	Direct
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify))

Assessment Methods (Direct, Indirect)





G. Specification Approval

COUNCIL /COMMITTEE	Umm Al-Qura University Council
REFERENCE NO.	851281214463/194460
DATE	1447/01/20

