Subject Description Form

Subject Code	AMA4330
Subject Title	Applications of AI in Finance Industry
Credit Value	3
Level	4
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	The objective of this course is to expose students with the benefits of applying Artificial Intelligence (AI) to different business operations and different segments of finance industries. The curriculum will encompass key technologies and tools involved and the expected benefits in terms of time, labor, security and regulatory compliance. Potential risks will also be highlighted.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a) identify upcoming key challenges and concerns of finance industry in the era of AI; b) recognize the potential impacts and contributions of AI at both national and global levels; c) demonstrate proficiency with the use of AI technologies and tools in finance industry; d) analyze and draw insights from case studies based on real situations; e) be aware of the ethical issues and maintain professional standards when utilizing AI technologies.
Subject Synopsis/ Indicative Syllabus	The following key topics to be delivered: a) Basic concepts and history of artificial intelligence, machine learning and generative AI b) Implementation and deployment of AI technologies in finance industry c) Key challenges and opportunities to finance industry in the age of AI d) Development trends of AI technologies in near terms e) Ethical issues, social responsibility and professional standard concerning the use of AI f) Case studies and success stories about utilization of AI technologies (e.g. customer interface, credit risk assessment, regulatory compliance, abnormal transaction detection, system security, etc.)
Teaching/Learning Methodology	Lectures: The lectures will be conducted to introduce the evolution of AI, key technologies involved, professional standards and how they are deployed in the finance industry. Tutorials: The tutorials will be focusing on case studies derived from real world situations in the finance industry, conducted with interactive learning elements such as discussions.

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
			a	b	c	d	e	
	1. Case study (presentation, project)	50%	✓	✓		✓	✓	
	2. Exam	50%	✓	✓	✓		✓	
	Total	100 %						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Case study

Students are asked to pick a particular area of the finance industry to first describe the key functions and applying AI to these functions, and then assessing the benefits, risks and challenges to the incorporation of AI technologies. They will demonstrate their understanding to the case through oral presentation, video presentation, essay, project report, or any other appropriate forms as assigned by the lecturer.

Exam

Written exam will be given in the form of but not limited to multiple-choice questions, short questions, long questions, or essay questions. Students will be assessed their understanding of the key values of AI technologies to the finance industry, as well as responding to specific scenarios given related to financial operations.

Student Study Effort Expected	Class contact:	
	▪ Lecture	26 Hrs.
	▪ Tutorial	13 Hrs.
	Other student study effort:	
	▪ Self-learning from reference materials	30 Hrs.
	▪ Reading and research for the case study	36 Hrs.
	Total student study effort	105 Hrs.

Reading List and References	[1] Remolina, N., & Gurrea-Martinez, A., Artificial Intelligence in Finance: Challenges, Opportunities and Regulatory Developments (1st ed.), Edward Elgar Publishing, 2023
	[2] Hemachandran, K., El-Chaarani, H., Moturi, S., & Gupta, N., Artificial Intelligence for Capital Markets (First edition.), CRC Press, 2023
	[3] Generative AI in banking and financial services	McKinsey, December 2023

	[4] The Generative AI Revolution in Banking: Transforming Research, Risk Assessment and Compliance | The International Banker, October 2024
	[5] The future of generative AI in banking | McKinsey, May 2024
	[6] Generative Artificial Intelligence in Finance: Risk Considerations | IMF, August 2023