Subject Description Form

Subject Code	MM1041
Subject Title	Introduction to Artificial Intelligence and Data Analytics in Business
Credit Value	2
Level	1
Pre-requisite/ Co-requisite/ Exclusion	Exclusion: LGT1041 Introduction to Artificial Intelligence and Data Analytics in Business
Objectives	The objective of this subject is to provide students with an overview of artificial intelligence and data analytics (AIDA) and their latest business applications. It aims to support Hong Kong's development as an international innovation and technology hub, aligning with the "eight centres" outlined in the 14th Five-Year Plan. This subject is designed to help students develop data thinking and analytical skills to transform data into actionable insights for better decision-making. Alongside theoretical knowledge of AIDA, students will gain hands-on experience with Python programming. The knowledge and skills acquired through this subject can also be applied to other AIDA-related subjects and Python programming courses.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Demonstrate an understanding of the foundational concepts of Artificial Intelligence and Data Analytics (AIDA). b. Acquire basic skills in using AIDA technologies and applications. c. Articulate examples of how the adoption AIDA could enhance Hong Kong's development as an international innovation and technology hub. d. Demonstrate an awareness of contemporary ethical issues and impact of AIDA applications on the business world and the Hong Kong society. e. Acquire fundamental Python programming skills.
Subject Synopsis/ Indicative Syllabus	**Artificial Intelligence (AI)** • Basic concepts of AI. • A brief history of AI. • AI and machine learning, robotics, and natural processing language. • Industry-specific applications in marketing, banking, e-commerce, education, healthcare, transportation, and other sectors. • Case studies on AI's role in accelerating Hong Kong's innovation and technology development. • Social impact of AI on businesses, employees, and citizens in Hong Kong. **Big Data, Cloud Computing and Data Analytics Tools** • Overview of big data, cloud computing and data analytics tools for structured and unstructured data. • Case examples from Hong Kong companies and government agencies. • Responsible data governance, cybersecurity, and privacy concerns. **Python Programming** • Fundamental programming concepts. • Variables, expressions, statements, and arithmetic operations. • Conditional statements (if, then, else). • Iterations (while loop and for loop).

	• Strings and lists.
Teaching/Learning Methodology	The course will implement a variety of methods as its pedagogy to help students achieve the above learning outcomes. • An online module developed by Department of Computing is provided to cover materials related to AIDA. • The course is delivered in the format of 2-hour per week. • Classes are designed to illustrate key concepts and application cases relevant to Python and AIDA in business contexts. Guest lectures might be arranged. Hand-on sessions are provided for students to gain practical experience with Python programming.

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. Participation	15%	✓	✓	✓	✓	✓
2. Individual Assignment	15%	✓	✓	✓		
3. Group Assignment	30%	✓	✓	✓		✓
4. Exam	40%	✓	✓	✓	✓	✓
Total	100 %					

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

To reflect the significant technology content in this subject, 10% (or more) of the overall weighting of this subject is based on individual assessment concerning technology-related knowledge.

Participation covers class participation, quiz and exercises.

Individual assignment assesses students' Python programming skills.

Group assignment evaluates students' co-operation in applying Python and AIDA concepts in business situations.

Exam measures students' overall understanding of AIDA and Python knowledge covered in this course.

Student Study Effort Expected

Class contact:	
▪ Online module	4 Hrs.
▪ Lectures and tutorials	22 Hrs.
Other student study effort:	
▪ Preparation for lectures and tutorials	20 Hrs.
▪ Preparation of assignment / group assignment and presentation / examination	36 Hrs.

	Total student study effort	82 Hrs.
Reading List and References	1. Camm J.D., Cochran, J.J., Fry, M.J., Ohlmann, J.W., Anderson, D.R., Sweeney, D.J. and Williams, T.A. (2019). *Business Analytics (3rd Edition)*. Cengage Learning. 2. Davenport, T.H., Brynjolfsson, E., McAfee, A., & Wilson, H.J. (2019). *Artificial Intelligence: The Insights You Need from Harvard Business Review*. Harvard Business Press. 3. Haenlein, M., & Kaplan, A. (2019). A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence. *California Management Review*, 61(4), 5-14. 4. Hosanagar, K. (2019). A Human's Guide To Machine Intelligence: How Algorithms Are Shaping Our Lives And How We Can Stay in Control. Viking. 5. Kaplan, J. (2016). *Artificial Intelligence (What Everyone Needs to Know)*. Oxford University Press. 6. Panda, S. (2022). *Artificial Intelligence and Machine Learning in Business Management: Concepts, Challenges, and Case Studies (First Edition)*. CRC Press. 7. Rose, D. (2020). *Artificial Intelligence for Business (2nd Edition)*. Pearson FT Press. 8. Severance, C.R. (2016). *Python for Everybody: Exploring Data in Python 3*. CreateSpace Independent Publishing Platform. 9. Yao, M., Jia, M., Zhou, A., & Zhang, N. (2018). *Applied artificial intelligence: A handbook for business leaders*. TOPBOTS.

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