Subject Code	MM5425
Subject Title	Business Analytics
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject contributes to the achievement by enabling students to understand theories and frameworks, which help to formulate the business analytics strategy of a firm, to analyze business case and solve business problems in big data in a critical manner, and to demonstrate an understanding on the applications and implications of the latest technologies to practices and decisions in business issues. Ability to communicate reasoned arguments effectively, both in speech and in writing, is also addressed. Through equipping students with a solid understanding and critical thinking mindset of the principles, methods and technologies for business analytics, students can apply business analytical tools to effectively address various issues faced by organizations, as well as be aware of the possible challenges and ethical issues related to business analytics.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. identify and translate real-world business and operational problems into business analytics problems; b. implement efficient business analytics strategies to solve business and operational problems; c. understand and compare different business analytics techniques d. identify, evaluate, and capture business analytic opportunities that create values e. understand the current trend of business analytics and be aware of the ethical issues related to business analytics
Subject Synopsis/ Indicative Syllabus	**<u>Foundations of Business Analytics</u>** Introduction to business analytics and data mining principles and concepts. **<u>Modeling</u>** Introduction to business analytics/machine learning methods: decision tree, linear regression, logistics regression, naïve bayes, clustering, etc. **<u>Programming</u>** Introduction to programming language for conducting business analytics.
Teaching/Learning Methodology	There will be a mix of lectures, discussions, and tutorials. Mini-group discussion and projects will be carried out to solve practical business problems and reports are produced at the end of the term. Hands-on experience of using business analytics tools and programming will be provided to enhance students' understanding of the applications of the latest business analytical technologies.

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d	e	
Continuous Assessment*	**100%**						
1. Attendance and class participation	10%	✓	✓	✓	✓	✓	
2. Individual assignment	30%	✓	✓	✓	✓	✓	
3. Group project	35%	✓	✓	✓	✓	✓	
4. Comprehensive Quiz	25%	✓	✓	✓	✓	✓	
Total	100 %						

Assessment Methods in Alignment with Intended Learning Outcomes

*Weighting of assessment methods/tasks in continuous assessment may be different, subject to each subject lecturer.

To pass this subject, students are required to obtain Grade D or above in the overall subject grade.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: the various methods are designed to ensure that all students taking this subject have a balanced learning experience. Individual assignment and group project will require students to apply business analytics principles and methods to handle business problems.

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.

Student Study Effort Expected

Class contact:	
▪ Lectures	39 Hrs.
Other student study effort:	
▪ Preparation for lectures	39 Hrs.
▪ Preparation for individual assignment / group project / comprehensive quiz	60 Hrs.
Total student study effort	138 Hrs.

Reading List and References	Recommended Textbooks
	Provost, F., & Fawcett, T. (2013). *Data Science for Business: What you need to know about data mining and data-analytic thinking*. O'Reilly Media, Inc.
	Shmueli, G., Bruce, P. C., Gedeck, P. G., & Patel, N. P. (2019). *Data Mining for Business Analytics: Concepts, Techniques and Applications in Python*. John Wiley & Sons.
	Reference Books
	Evans, J. (2021). *Business Analytics: Methods, Models, and Decisions (3rd ed.)*. Harlow: Pearson.
	James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). *An Introduction to Statistical Learning: with Applications in R*. New York: springer.
	Ian, G., Yoshua, B., & Aaron, C. (2016). *Deep Learning (Adaptive Computation and Machine Learning)*. The MIT Press.
	Albright, S.C. and W.L. Winston (2014). *Business Analytics: Data Analysis & Decision Making,* 5th Edition, Cengage Learning.
	Camm, J.D. (2017). Essentials of Business Analytics (Second ed.). Boston, MA: Cengage Learning.
	Linoff, G.S. and Berry, M.J.A. (2011). *Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management (3rd ed.)*. Indianapolis, Ind: Wiley Pub.