Subject Code	MM5412
Subject Title	Business Intelligence and Decisions
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	None
Objectives	Business intelligence (BI) encompasses tools, systems, methodologies and applications, all of which are integrated, with the purpose to improve business decision making. BI is evolving from its origins as primarily a support tool for executives and is quickly becoming a commodity shared by managers, decision makers and analysts across organizations. This course is to introduce the students to these various analytical tools and methodologies to support business decisions making.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Perceive how the business intelligence (BI) can help in decision-making and improvement for a complex business environment. b. Evaluate and select BI tools for the improvement of productivity and efficiency of an organization. c. Apply BI to support better business decision-making.
Subject Synopsis/ Indicative Syllabus	1. Overview of Business Intelligence & Data Mining 2. Use of Probability & Statistics as Foundation 3. Use of Different Tools as Business Intelligence in supporting Decision Making a. Hypothesis Testing b. Linear & Multiple Regression c. Stepwise Regression d. Time Series Analysis e. Factor Analysis f. Structure Equation Modelling g. Data Visualization (Optional) The course will use different computer tools, such as Excel, SPSS and SmartPLS.
Teaching/Learning Methodology	The course will use a variety of methods (lecture, seminar, computer lab sessions, classwork or take-home exercises, take-home readings, quizzes, project and presentation…) as its pedagogy to help students achieve the above learning outcomes. Classroom attendance and class participation are important. Students' background and work experience will help one another learn and grow. Students are expected to pay active participation in class, help one another in doing computer exercises, and to finish assigned readings and assignments in order to achieve the learning purposes.

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			
Continuous Assessment	**100%**						
1. Classroom Performance	20%	✓	✓	✓			
2. Individual Assignments	30%	✓	✓	✓			
3. Group Project	20%	✓	✓	✓			
4. Comprehensive Quiz	30%	✓	✓	✓			
Total	100 %						

Notes:

1. *Weighting of assessment methods/tasks in continuous assessment may be different, subject to each subject lecturer.*
2. *To pass this subject, students are required to obtain Grade D or above in the overall subject grade.*

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.

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

1. Classroom performance (overall participation) includes the students' active participation, feedback and contribution in class as well as classwork, take-home exercises and surveys. Its purpose to assess students' understanding of key technique in individual topics of BI.
2. Individual assignments will be used to assess individual students' comprehensive power, critical thinking, analytical ability and written skill.
3. Group project enables the students to work as a team to do a more in-depth study of a selected topic and apply BI on real business situation. It is to assess their knowledge as well as their research, presentation and written skills.
4. The quiz is a good tool to test students' understanding of the concepts, and the capability to handle data and apply BI tools and methods.

All above various methods are designed to ensure that all students taking this subject to have a balanced learning experience.

Student Study Effort Expected		
	Class contact:	
	▪ Lectures & tutorials	39 Hrs.
	Other student study effort:	
	▪ Preparation for lectures & tutorials	39 Hrs.

	▪ Take-home exercises, individual assignment, group project & presentation , and quiz.	78 Hrs.
	Total student study effort	156 Hrs.
Reading List and References	**<u>Reference Books</u>:** There is NO single best textbook book that can cover everything for this course. The following reference books will be useful for individual topics. 1a. Sharda, R., Delen, D., & Turban, E. (2018). *Business intelligence, analytics, and data science: A managerial perspective* (Fourth ed.). Boston: Pearson. 1b. Sharda, R., Delen, D., & Turban, E. (2015). *Business intelligence and analytics: Systems for decision support* (Tenth ed.). Boston: Pearson. 2a. 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. 2b. Shmueli, G., Bruce, P. C., Yahav, I., Patel, N. R., & Lichtendahl Jr, K. C. (2017). *Data mining for business analytics: concepts, techniques, and applications in R*. John Wiley & Sons. 2c. Shmueli, G., Bruce, P. C., & Patel, N. R. (2016). *Data mining for business analytics: Concepts, techniques, and applications in Microsoft Office Excel with XLMiner* (3rd ed.). Hoboken, N.J.: Wiley. 3. Vercellis, C. (2011). *Business intelligence: data mining and optimization for decision making*. New York: Wiley. 4. Ahlemeyer-Stubbe, Andrea, & Coleman, Shirley. (2014). *A Practical Guide to Data Mining for Business and Industry*. Chichester, UK: John Wiley & Sons. 5. Bowerman, B. L., Drougas, A. M., Duckworth W. M., Froelich A. G., Hummel R. M., Moninger K. B., Schur, P. J. (2019). *Business statistics and analytics in practice* (Ninth ed.). NY: McGraw-Hill. 6. Doane, D. P., & Seward, L. W. (2019). *Applied statistics in business and economics*. NY: McGraw-Hill. **<u>Journals</u>:** MIS Quarterly MIS Quarterly Executive Information Systems Research Management Science Production and Operations Management	