Subject Description Form

Subject Code	LGT3425
Subject Title	Business Analytics
Credit Value	3
Level	3
Pre-requisite/ Co-requisite/ Exclusion	**Exclusion:** Introduction to Business Analytics (LGT/MM2425) and Business Analytics (MM3425)
Objectives	This subject aims to expose students to the cutting-edge practices and technologies (including artificial intelligence and cloud computing) which are used for transforming business data and big data into useful information. It focuses on the cultivation of a sense of viewing business problems from a data perspective and critical thinking in business analytics. Through equipping students with a solid understanding of the principles, methods and technologies for business analytics, students can apply business intelligence tools to effectively address various issues faced by organizations. Hands-on practices for relevant computer application software and computer programming (Python) will be emphasized in the whole subject.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: **a.** Understand the current concepts and applications of business analytics in both local and global business environments **b.** Analyze business situations and tackle business problems using various types of business analytics tools **(BBA Outcome 7)** **c.** Understand how current technologies such as artificial intelligence and cloud computing contribute to the success of data analytics implemented in companies **d.** Think critically and creatively on applying business analytics in different business contexts and daily contexts **e.** Identify and evaluate business opportunities using business analytics **f.** Identify the critical managerial and ethical issues in using business analytics
Subject Synopsis/ Indicative Syllabus	The subject presents an overview of strategic and managerial issues on business analytics in modern enterprises. Upon completion of the subject, students will be able to grasp fundamental issues of business analytics: **Business Analytics Overview** Introduction to business analytics, data-analytic thinking, data science solution for business problems. **Predictive Modelling** Introduction to predictive modeling. Forecasting analytics. **Prescriptive Analytics** Introduction to optimization and simulation. **Decision Analytics**

<table>
<tr><td></td><td>What is a good model? Visualizing model performance, introduction to data mining and text analytics.

Students will learn the relationships among artificial intelligence, cloud computing and big data, and understand how they can be integrated and applied in business analytics.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>The course will use a variety of methods as its pedagogy to help students achieve the above learning outcomes.

1. General announcement and an opportunity for students to ask questions to address any unfinished thoughts from the previous class;

2. Overview of the current class agenda and its relationships to past discussion;

3. Extended period of students- or instructor-led discussion of the key issues in the assigned case or readings. Collaborative learning strategies (learning via discussion in a small group) may be employed during part of this time;

4. Lab sessions during tutorials to provide students hands-on experiences of using business analytics tools.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes
(Note 4)</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td></tr>
<tr><td>Continuous Assessment</td><td>50%</td><td colspan="6"></td></tr>
<tr><td>1. Participation</td><td>5%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>2. Mid-term test</td><td>15%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td></tr>
<tr><td>3. Group Assignment(s)</td><td>30%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Final Examination</td><td>50%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100%</td><td colspan="6"></td></tr>
</table>
*Weighting of assessment methods/tasks in continuous assessment may be different, subject to each subject lecturer.

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 outcomes: the various methods are designed to ensure that all students taking this subject to have a balanced learning experience.

Feedback is given to students immediately following the presentations and all students are invited to join this discussion.</td></tr>
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<tr><td rowspan="7">Student Study Effort Expected</td><td>Class contact:</td><td></td></tr>
<tr><td>▪ Lectures</td><td>26 Hrs.</td></tr>
<tr><td>▪ Tutorials</td><td>13 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Preparation for lectures</td><td>28 Hrs.</td></tr>
<tr><td>▪ Preparation of assignment / group assignment and presentation / examination</td><td>56 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>123 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">Recommended Textbooks
Camm, J.D., Cochran, J.J., Fry, M.J. and Ohlmann, J.W. (2021). Business Analytics (4th edition). Cengage.

Reference Books
Akerkar, R. (2019). Artificial Intelligence for Business. Springer.

Albright, S.C. and Winston, W.L. (2020). Business Analytics: Data Analysis & Decision Making (7th edition). Cengage Learning.

Morrison, R. (2015). Data-driven Organization Design: Sustaining the Competitive Edge through Organizational Analytics. Kogan Page.

Provost, F., and Fawcett, T. (2013). Data Science for Business. O'Reilly.

Ragsdale, C.T. (2022). Spreadsheet Modeling and Decision Analysis: A Practical Introduction to Business Analytics (9th edition). Cengage Learning.

Severance, C.R. (2016). Python for Everybody: Exploring Data in Python 3. CreateSpace Independent Publishing Platform.

Other References
Rentschler, C.V. (2017). Data at the edge but what does it mean? MS&E 238 Blog: Leading Trends in Information Technology. Stanford University.

Fu, K. and Xu, W. (2018). Risks of trusting the physics of sensors: protecting the Internet of Things with embedded security. Communications of the ACM, 61(2), 20 – 23.</td></tr>
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