The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT 5425
Subject Title	Business Analytics
Credit Value	3
Level	5
Normal Duration	One Semester
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject introduces the business analytical techniques by enabling students to understand business theories and frameworks. Through equipping students with a solid understanding and critical thinking mindset of business analytics, students can apply business intelligence 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. This subject contributes to the following Intended Learning Outcomes for the following programme(s): MSc in Operations Management #2: Develop the specific operations management knowledge
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, compare and contrast 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	**Foundations of Business Analytics** Introduction to business analytics **Descriptive Analytics** Statistical measures, estimation, statistical inference, hypothesis testing. **Predictive Analytics** Introduction to predictive modeling. Regression analysis, logistics analysis, introduction to data mining, text analytics. **Prescriptive Analytics** Decision analysis, linear and integer programming, simulation and the applications. Note: Emerging technologies, e.g., Data Mining and Data Science, and their applications in Business Analytics have been included in the above.
Teaching/Learning Methodology	There will be a mix of lectures, discussions, and case studies. Mini-group discussion and projects will be carried out on some business cases in depth and reports are produced at the end of the term. Hands-on experiences of using business analytics tools will enhance students' understanding of the theories and concepts of Business Analytics.

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
	Continuous Assessment*	**100%**					
	1. Attendance and class participation	10%	✓	✓	✓	✓	✓
	2. Individual assignment	20%	✓	✓	✓	✓	✓
	3. Group project	40%	✓	✓	✓	✓	✓

4. Comprehensive Quiz	30%	✓	✓	✓	✓	✓	
Total	100 %						

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

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. Individual assignment and group project will require students to apply business analytics (Outcomes 1) to handle operational problems which arise in actual organizations.

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 / tutorials	39 Hrs.
	Other student study effort:	
	▪ Preparing for lectures	39 Hrs
	▪ Preparation for individual assignment / group project / comprehensive quiz	60 Hrs
	Total student study effort	138 Hrs
Reading List and References	Camm, J.D., Cochran, J.J., Fry, M.J. and Ohlmann, J.W. (2021). *Business Analytics* (4th ed.). Cengage Learning.	

Camm, J.D., Cochran, J.J., Fry, M.J. and Ohlmann, J.W. (2021). *Business Analytics* (4th ed.). Cengage Learning.

Evans, J. (2021). *Business Analytics: Methods, Models, and Decisions* (3rd ed.). Harlow: Pearson.

Albright, S.C. and W.L. Winston (2019). *Business Analytics: Data Analysis and Decision Making* (7th Ed.). 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.

Provost, F. and Fawcett, T. (2013). *Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking* (1st ed.). Sebastopol, Calif: O'Reilly.

Ragsdale, C. (2022). *Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Business Analytics* (9th ed.). Stamford, CT: Cengage Learning.

	Shmueli, G., Patel, N.R. and Bruce, P.C. (2010). *Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner* (2nd ed.). Hoboken, N.J: Wiley. **_Journals_ (Selected papers are recommended for students' readings where appropriate)** MIS Quarterly MIS Quarterly Executive Management Science Production and Operations Management Information Systems Research